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# TEXT BOOK OF LIFE INSURANCE

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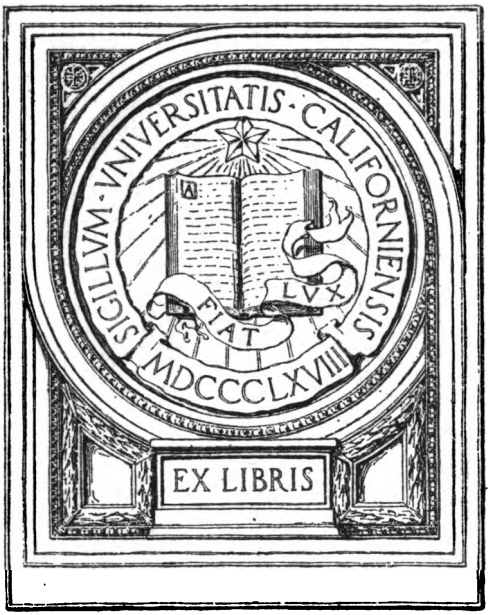


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# TEXT BOOK
# OF LIFE INSURANCE

Being the First Post-Graduate Course
OF THE
Pacific Mutual School
FOR
Salesmen

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"Efficiency"

# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

NUMBER ONE

# Origin, Development, Character and Economic Effects of Life Insurance

BY FORBES LINDSAY

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## DIRECTIONS

In studying these lessons constantly bear in mind their practical purpose. Unless you can make them serve in helping you write Life Insurance they are worthless.

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One pamphlet will reach you not later than the 1st and 15th of every month. Answers to the questions must be mailed to the School not later than the 1st or 15th of the month falling two weeks after date of receipt.

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Use a typewriter or ink in writing answers. Number each answer to correspond with the number of the question to which it relates, and give the number of the pamphlet to which the answer refers. Questions need not then be repeated. On every answer paper place your name and address, as well as the date on which the paper is mailed.

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Make your answers brief and to the point. Use your own words whenever you can. Write to the Superintendent of the School for any explanation or information you may desire.

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The regulations are simple. Strict observance of them will be required of students.

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I

# Origin, Development, Character and Economic Effects of Life Insurance

BY FORBES LINDSAY

With the first recognition of domestic obligations there must have come a realization of the need for provision against the premature death of the head of the family. We find among primitive people at this day various methods of meeting this unavoidable necessity, and it is safe to assume that these methods are survivals of prehistoric practices. The communal system of property ownership may well have had its origin in a design to protect helpless and dependent members of a clan or tribe.

Life Insurance is, in fact, one of the natural institutions which have come into being as inevitable factors in our social evolution. The practical necessity for Life Insurance and the fundamental principle of its operation must have been dimly realized with the first observation of disaster to the welfare of dependents entailed by the death of their former supporter, coupled with the thought that the loss, if distributed over the community, would hardly have been felt by any individual member of it. As the appreciation of universal liability to untimely death deepened and spread, the idea of co-operative provision against its material consequences expanded and crystallized. However, the need of systematic Life Insurance was felt for many centuries before the want was supplied. Fire and marine insurance had been in extensive practice for long before Life Insurance on an organized basis was introduced. This, without doubt, because in the earlier stages of society the economic value of property was relatively greater than that of human life.

The practical application of the principles of insur-

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ance, in more or less crude forms, dates back to ancient times. The Phoenician traders and mariners used to put a certain percentage of the profits of each successful voyage into a fund which was drawn upon to relieve the families of sailors who were killed or disabled in service. The Roman Collegia and the associations of Saxon serfs paid death indemnities and benefits in cases of accidents and sickness. (See Anderson, **"History of Commerce"**; Eden, **"State of the Poor"**; Turner, **"History of Anglo-Saxons"**; Walford and Toulmin Smith on the **Guilds**; **Encyclopedia Britannica**; **Insurance Encyclopedia.)**

From the beginnings of personal protection developed, after the suppression of the guilds at the close of the reign of Henry the Eighth, the Friendly Societies and Burial Clubs, which were the forerunners of modern Life Insurance companies. The history of the former associations is preserved in Parliamentary blue-books and reports of Royal Commissions. These documents throw interesting light on the fundamental defects of the Assessment System and make a lucid presentation of the principles of State or social insurance.

The prototype of the modern Life Insurance contract is a document dated June 18, 1583. It was an agreement on the part of sixteen merchants of the city of London to insure the life of one William Gybbons for a term of twelve months in the amount of 383⅓ pounds sterling, at a premium of 8 per cent. Judicial and other records reveal a few similar transactions during the seventeenth century. All these agreements were essentially in the nature of wagers. The transactions were far too few to be affected by the Law of Averages, and there was no data on which to estimate, even remotely, an equitable charge for the risk. Indeed, Life Insurance had been conducted by corporations for well-nigh a century before reliable mortality statistics were available to their actuaries. The business as carried on at its inception was haphazard and speculative in the extreme. No medical examinations were required, nor was family history taken into account. The same premium was charged at all ages, and the question of moral hazard was ignored. Fortunately for the survival of the institution the estimates of mortality were enormously too high and, despite the reckless acceptance of risks, the profits of the early com-



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panies were so large as to stimulate extension of the business.

Annuities, necessarily based on faulty calculations, had been sold by governments and private individuals for long before 1698, when the Mercers Company of London opened the first office for the public sale of Life Insurance. This was followed in the next year by the Society of Assurances for Widows and Orphans. In 1706 the first mutual Life Insurance company was organized under the name of the Amicable Society for a Perpetual Assurance Office.

Strangely enough, the membership was limited to two thousand. A messenger was sent round once a year "to inquire if any of the said members are dead and take care of making such proof of such death as is required by the by-laws of the said corporation in order to pay such claims." Unlike many of the companies which later entered the business, the Amicable scrutinized applicants with considerable care and practiced a system of inspection, if we may infer as much from an entry in its records instructing the auditor of the Society "to write to the Post Master or some other person of Stalbridge in Dorset for an account of a Proposer's Health and Constitution and whether he be a man of sober and regular life." It is surprising to find, as early as 1713, a foreshadowing of the agent's license in the order imposing a fine of five pounds upon any employe found "to trade or intermeddle with the disposal or buying or selling of any policy or policies without an order of the Court of Directors."

"As regards investments, the mention of South Sea Bonds in the list is startling enough in itself; but when one turns to the 'Various Orders of the Board for investing the Society's funds' and reads of purchases and sales of Malt Tallies, Mine Adventure Bonds, Victualling Bills, Hollow Sword Blade Bonds and Tickets in State Lotteries—which are recorded in the Minutes—one is strikingly reminded of the peculiar conditions and limitations of the investment market of those far-off days."

The earliest evidence of formal recognition of occupational hazard is found in a regulation of 1736, barring seafaring men from the "Advantages of Insuring their



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Lives." In 1760 it was decided that militiamen should not be disqualified for insurance.

The first record of Life Insurance advertisement seems to be an order of the Society's Board in 1749, directing that "the Register before the next Court procure Two Dozen of the Printed Terms, Methods and Advantages of Insuring Lives in the Society to be pasted on Boards and framed," after which they were distributed "among the several coffee houses mentioned in a paper to him delivered."

Neither the Amicable nor the Equitable employed soliciting agents but in the last quarter of the eighteenth century both found it necessary to invoke the law against persons who falsely represented themselves as authorized to write policies for those companies.

A curious practice prevailed at that time which might, perhaps with advantage, be revived. A policyholder was permitted to substitute for himself another risk of the same age or younger, subject to the approval of the insuring company. It is conceivable that such a privilege in latter-day contracts would entail the continuance of a large amount of insurance which is terminated or reduced by lapse or surrender.

After a long and honorable career, the Amicable was absorbed by the Norwich Union Life Office in 1866. The latter company has published a highly instructive and interesting history of the former Life Insurance institution.

At the close of the eighteenth century there were eight life offices in active operation in Great Britain, and ten or more came into existence during the ensuing decade.

In 1756 a dissatisfied policyholder of the Amicable decided to form a new company on a more equitable plan than that of the parent organization, which made the same charge to all insurants, regardless of age, condition or occupation. Six years passed before the project took material form. To quote Hoffman:

"When the London Equitable was started in 1762 very little was known regarding the true cost of insurance as conditioned by the normal rate of mortality, interest and expense. * * * At age 30 a premium of about $40 was charged for each $1,000 of insurance, which, of course, was entirely too high and led, in subsequent



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years, to the division of increasing dividends to a most fortunate surviving group of policyholders."

The company was phenomenally fortunate in several of its heaviest investments, and the large resultant profits encouraged the organization of numerous companies on the assumption that they would enjoy a similar experience to that of the Equitable.

The early success of the Equitable Society of London was very largely due to its having had Dr. Richard Price, the compiler of the Northampton Table, and William Morgan, his nephew, in its service as actuaries.

The Amicable and Equitable of London may safely be styled the keystone of the great institution of Life Insurance. The managers of these concerns had to wrestle with many intricate and perplexing problems of principle and practice. Their conclusions and procedure afforded valuable precedents to later companies in the earlier period of the business.

In the half century following the introduction of Life Insurance a great many companies were floated. Conducted and patronized in a spirit of speculation, a large proportion of them failed through reckless management, and not a few owing to the investment of their funds in the South Sea Company and similar evanescent enterprises. "Insurable interest" was not recognized at that time. "Graveyard risks" were imposed on the companies, and not infrequently murders were committed to create claims. Insurances were granted for one year on a percentage charge, almost regardless of age, health, or other conditions. No reserves were provided, and the factor of interest was for long ignored. A gradual improvement of these careless methods and haphazard conditions came to pass, beginning at about the time of the organization of the Equitable Society of London in 1762. This and several other companies which were established in the latter part of the eighteenth century are operating on a sound basis today.

Life Insurance in America began after the mediaeval practice of a syndicate of private individuals underwriting the life of a certain person for the term of one year, during which he was to be subjected to some special hazard, usually a long sea journey. In the first century and a half of the colonial period this was the only form



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of Life Insurance available. The first American institution for insuring lives grew out of a relief fund of the Presbyterian synods of New York and Philadelphia. In 1759 a charter was obtained by the organization, which was not, however, authorized to do a general business until 1875. It is still operating under the name of the Presbyterian Ministers' Fund. Unlike the experience in England, the introduction to the United States of organized Life Insurance was not followed by the creation of a number of companies. In 1859—exactly one hundred years after the establishment of the first life office in America—only fourteen companies reported to the New York Insurance Department, then in its first year. This slow growth, whilst attributable in large measure to ignorance and prejudice on the part of the public, was in no small degree due to high mortality and prevalence of epidemic diseases, especially in the South and West. These conditions seriously restricted the operations of American companies in the early period of the business.

The organization of the Pennsylvania Company for Insurance of Lives and Granting Annuities in 1809, marked the beginning of Life Insurance upon a business basis in the United States. This concern adopted the policy forms and premium rates used by the best British companies which had been writing level premium insurance for many years previous. The precedent set by the Pennsylvania Company in this respect was a fortunate one because the policy of the Presbyterian Ministers' Fund was virtually an assessment contract.

The earliest American Life Insurance corporations were stock companies with large capital and generally authorized to do a trust business. A common form of policy was for one year at rates which, for age 41, varied from $17.80 to $21.00 per thousand. One of these companies, the Girard Life & Trust Company of Philadelphia, organized in 1836, introduced the plan of sharing profits with policyholders. The result was an immediate demand for mutual Life Insurance companies, successful examples of which were found in the Equitable and others of London. Between 1843, the year in which the Mutual Life of New York commenced business, and 1860, thirty-four companies were organized in the United States to do a Life Insurance business on a purely mutual



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plan, or one providing for a proportion of profits to be paid to policyholders. In the same period the insurance in force increased from $6,500,000 to $160,000,000. Contrary to expectations, the Civil War seems to have exercised a stimulating effect upon the Life Insurance business. At the close of the year 1869 there were 110 corporations engaged in it, whilst the insurance in force amounted to approximately $1,500,000,000.

The extraordinary growth of the business in the quarter century preceding 1870 was mainly due to reckless management which overlooked the necessity of adequate reserves, distributed extravagant dividends and accepted notes instead of cash in payment of premiums. Few companies were in the hands of capable executives. The idea had prevailed that a Life Insurance office might be successfully conducted without technical knowledge or experience. During the decade preceding 1870 a wave of reckless promotion, similar to that which is now subsiding, resulted in the incorporation of scores of companies under the most unpromising conditions.

Most of these ill-begotten concerns were short-lived. In the course of ten years, following 1870, which was a period marked by general mismanagement of corporations, no fewer than 71 Life Insurance companies failed. The immediate consequences to the business were naturally detrimental, but the ultimate effect unquestionably favorable. The surviving companies took the lesson to heart and instituted reforms. The organization of new companies was checked, not a single one entering the business during twenty years.

The fifteen years succeeding 1880 was a period of great prosperity for Life Insurance, at the end of which there were 5,000,000 policies in force in the United States representing a total amount of $12,000,000,000, more than eight times as much as the insurance in force in 1879. A brief set-back was experienced, owing to the revelations of the Armstrong Committee of the New York Legislature. Whilst this inquiry disclosed grave abuses in connection with a few of the largest companies, it revealed conservative management and faithful trust on the part of the great majority, and revealed the inherent strength and soundness of the institution of Life Insurance.

Long before this time the practice of Life Insurance



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was on a thoroughly scientific basis. State supervision and the passage of non-forfeiture laws had inspired public confidence. The Tontine system of accumulating dividends, whilst the prime cause of the chief abuses associated with the business, was one of the most potent factors in its extension. With the numerical increase of companies the pressure of competition led to greatly improved service and a liberality in policy contracts which has, in some respects, transcended the bounds of conservatism.

These developments had the effect of accelerating the growth of Life Insurance in America at a marvelous rate. There is now in force in this country upwards of $24,600,000,000 of legal reserve Life Insurance, exclusive of that issued by fraternal societies and assessment associations. This is more than twice the amount of similar protection carried by the combined peoples of Europe. Assets held to meet the liabilities under this vast business aggregate more than $5,500,000,000. The surplus funds, including capital, approximate $700,000,000. In the year 1916 the companies distributed to policyholders and their beneficiaries upwards of $555,000,000. The firmness with which Life Insurance had become rooted in America was proved by the comparatively slight effect upon the business by the disturbance and misapprehension which was created in the public mind by the garbled press reports of the Armstrong investigation in 1905. However, the condition created an opportunity, of which shrewd promoters were quick to avail themselves. By misrepresentation of the profits to be derived from the business, and by appeal to sectional pride or prejudice, solely self-interested speculators floated numerous companies under conditions that precluded the possibility of success in any but a few cases. Ten years ago there were 112 old line companies operating in the United States. There are now about 225, half the number reporting less than $3,000,000 of new business annually. Each year witnesses the disappearance of a number of these companies either by complete failure or by absorption in stronger concerns.

The history of Fraternal and Assessment insurance in America will be treated in a later paper.



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## LIFE INSURANCE AS AN ECONOMIC FACTOR

With the enhancement in the material value of human life and the complex interdependence of the members of a civilized community, Life Insurance became a well-nigh essential economic factor. Without its conserving and creating agency our present national development could not have been attained. Indeed, it is not too much to say, that if the 40,000,000 or more Life Insurance policies carried by Americans should be suddenly cancelled without compensation, the industrial and social progress of our country would receive a more severe shock than could be dealt to it by any other conceivable calamity.

The consideration of Life Insurance in its economic aspect opens up too vast a field for extensive exploration. I shall endeavor to convey some idea of its character and extent in a few brief generalizations. The student who may desire to go into the subject more deeply is directed to the following sources of information. (**Insurance Science and Economics,** Hoffman; **Proceedings of the Association of Life Insurance Presidents; Yale Readings in Insurance,** Life volume; **American Academy of Political and Social Science,** Insurance volume.)

Life Insurance is fast evolving from an agency for mere personal protection to a social and economical institution of the most widespread influence. Evidences of this are found in the various government insurance enterprises, in the different applications of group insurance, in business or commercial insurance, and in insurance designed to furnish endowments to semi-public institutions. Recognition of these constantly broadening functions, with their vastly important effects, has led to the establishment of Life Insurance courses in seventy American universities and colleges. The resultant increase in knowledge and understanding must react with beneficial influence upon the business of Life Insurance.

Life Insurance enables a man to fulfill those fundamental obligations to his kin and to society which would otherwise fall upon the state. Life Insurance, by enforcing thrift, operates towards the decrease of indigence. Life Insurance elevates the standard of living and consequently promotes morality. Life Insurance provides sustenance and the means of education to the young, thereby militating against vice and degeneracy. Statis-



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tical records, as well as investigations in orphan asylums and reformatories, strongly support these conclusions.

Life Insurance has always met with greatest appreciation among the poorer classes. The holders of industrial policies in America number tens of millions. By far the largest amount of assessment and fraternal insurance is carried, if not by the laboring classes, by men of little more monetary means. The industrial insurance in force exceeds $4,770,000,000. Every claim paid under this insurance represents substantially the relief of tax-payers from the expense of a burial. Great as it must be, we cannot estimate the moral effect upon the industrial classes of the self-sacrifice, independence and foresight involved by this modest protection.

Year by year the payments under "ordinary" policies enable an army of children to remain at school who otherwise would have been obliged to go upon the streets or into factories, with the result of impairing their health, requiring them to grow up in ignorance and, perhaps, leading them into lives of crime. The value of Life Insurance to the State and to the social body in this respect can only be faintly conjectured. A highly important effect of Life Insurance, but one which cannot be measured any more accurately, is its inducement to habits of thrift, self-denial and accomplishment of duty. Millions of men make their first savings in this way and extend them in consequence.

Life Insurance is one of the most effective, equitable and beneficial agencies for the re-distribution of wealth. In the operation of distributing the burden over many shoulders and spreading the benefits upon many heads it performs a number of economic functions that are hardly suspected by the average layman. The yearly income and outlay of the legal reserve companies aggregate more than $1,700,000,000, or about three-fourths of all the currency in the United States. These many millions are constantly flowing into the insurance offices in driblets and as constantly streaming out in larger units.

The funds of Life Insurance companies, which have been aptly termed "the people's investments," are placed, under the regulations of the various States' insurance departments, in bonds of the best character, real estate mortgages, farm loans and other securities, all of which



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are connected with public improvements and private enterprises. Life Insurance money buys the State and municipal bonds which provide for the erection of school houses, the construction of roads and other public works that necessitate the extensive employment of labor. It erects the city sky-scraper, finances the trolley line and the telephone system. It furnishes the means of improving the ranch and establishing the irrigating plant.

In short, Life Insurance funds are the vital element in safe and profitable enterprises of all kinds. They are the investments of the masses in fields which they could not enter as individuals. The money paid to the companies in premiums is circulated where it will do the most good to the individual contributor and to the community at large.

Commercial Life Insurance, which, in preserving the business, protects the home, is a rapidly growing influence on the stability of our business affairs. Every year millions are lent by insurance companies on the security of commercial policies, and there can be no doubt but that thousands of concerns are saved from serious embarrassment, if not actual bankruptcy, by this means.

The latter-day Life Insurance company entertains a view of its obligations and the scope of its utility which was undreamed of twenty-five years ago. Progressive executives and directors, with due regard to the reactive effects, are extending to the patrons of their companies and the public at large, services which pass far beyond the bounds of the benefits contemplated in their charters. Some companies are making notable contributions to the conservation of life and the promotion of hygiene. The organized efforts in this direction represent a movement which, though only in its infancy, has already produced widely beneficial effects, and promises to become a potent factor in our social welfare.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### I

1. **What early associations may be termed "the forerunners" of modern Life Insurance?**

   *The Burial Clubs and Friendly Societies which succeeded the guilds, after their suppression in the reign of Henry the Eighth.*

2. **What was the first Mutual Life Insurance Company and when was it organized?**

   *The Amicable Society for a Perpetual Assurance Office, organized in* 1706.

3. **What was the earliest form of Life Insurance policy?**

   *One year Term.*

4. **To what may be attributed the slow early growth of Life Insurance in America?**

   *Ignorance and prejudice on the part of the public, high mortality and prevalence of epidemics in many sections of the country.*

5. **What created the demand for mutual companies in America?**

   *The payment of dividends to policyholders by stock companies, particularly the Girard Life & Trust Company of Philadelphia.*

6. **What effect did the Civil War appear to have on Life Insurance and how was it indicated?**



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*A stimulating effect, as indicated by the presence in America of* 110 *companies at the close of the year* 1869 *with insurance in force amounting to* $1,500,000,000.

7. **State a few of the effects wrought by Life Insurance as a social factor.**

   *It enables a man to fulfil obligations to his dependents which would otherwise fall upon the State. It enforces thrift, elevates the standard of living, provides means of education and generally operates against poverty.*

8. **In what manner does the investment of Life Insurance funds conduce to the welfare of the business and wage-earning elements of the community?**

   *By affording the means of promoting the greatest variety of public and business enterprises which open wide fields for the employment of labor.*

9. **In what respect do Life Insurance investments place the policyholder of small means on a parity with the man of wealth?**

   *By entering fields of investment which open only to capital.*

10. **Why may Commercial Life Insurance be considered a factor in domestic conservation?**

    *Because the preservation of the business must protect the home.*

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# QUESTIONS

## I

1. What early associations may be termed "the forerunners" of modern Life Insurance companies.

2. What was the first Mutual Life Insurance company and when was it organized?

3. What was the earliest form of Life Insurance policy?

4. To what may be attributed the slow early growth of Life Insurance in America?

5. What created the demand for mutual companies in America?

6. What effect did the Civil War appear to have on Life Insurance and how was it indicated?

7. State a few of the effects wrought by Life Insurance as a social factor.

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10. Why may Commercial Life Insurance be considered a factor in domestic conservation?

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II

# The Theory of Risk and Methods of Selection

BY FORBES LINDSAY

"Insurance, reduced to its simplest terms, means the application of the principle of association to the equalization of losses resulting from the inherent uncertainty in human affairs." In the language of the Select Committee on Friendly Societies, 1825, "wherever there is a contingency, the cheapest way of providing against it is by uniting with others, so that each man may subject himself to a small present privation in order that no man may be subjected to a great future loss."

From the earliest days of organized society, effort has been directed toward eliminating or mitigating the consequences of the many casual and hidden hazards to which human beings are subject. Insurance has proved to be the most practical and effective agency for the attainment of the object. In its modern development it furnishes a scientific method of providing indemnity for the losses entailed by a great variety of unforeseeable occurrences, and its application is now extended to cover almost every adverse contingency to which the business or personal interests of the individual are exposed.

Ignoring the philosophic discursions on the abstract nature of chance, we shall employ the word in the sense which obtains among actuaries, that is, to mean the degree of probability of a future event. This probability, in so far as it enters into the mathematics of Life Insurance, is mainly determined by the experience of the past, and with the passage of time is constantly approaching a closer approximation to precision.

Chance "may vary all the way from absolute certainty that an event will not occur, through the different degrees of probability, to absolute certainty that it will occur." Obviously the degree of uncertainty is greatest midway between these extremes of absolute certainty. That is to say, when the chance of an event happening is exactly equal to the chance of its not happening, the uncertainty

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of its occurrence is greatest. With the increase of the chance in either direction the degree of uncertainty necessarily diminishes.

When an insurance company places a policy on the life of an individual, the assumption of chance on its part is technically termed a "risk," the assured is referred to as a "risk" and the sum for which he is insured as "the amount at risk."

It is important that we should clearly understand the difference in character between a risk in the ordinary sense and a Life Insurance risk. The former is generally indefinite and immeasurable; the latter is practically always the reverse. The actuary deals with precise data and calculable chances. But in order to do this he must be able to secure the operation of the Law of Averages upon his risks.

Our mortality tables tell us that about 50 men of 100 aged 91 will die in the ensuing year. Each has an even chance of death **as a member of the group.** As a segregated individual his chance becomes absolutely uncertain. There is no scientific basis for calculating it. The only safe premium for insuring him for $1,000 would be that amount discounted by a year's interest. He is a risk in the conventional sense. The actuary might, however, insure the entire group for $1,000 each at a premium of a little less than $500. They would be risks in the insurance sense and all the chance involved in the transaction would fall upon the insured.

There is nothing less certain than the duration of a single life, and few things more certain than the average duration of life in a group. We do not know which particular persons of the group will die in a given year, but we have practically accurate knowledge of the number who will do so. That is to say, the life of any individual is an uncertain quantity, but the life of the average member of an insured group is subject to precise mathematical estimation. There is the greatest possible difference between insuring a single life and insuring the lives of a group. The former transaction is a wager, pure and simple, and such was the nature of all the earliest Life Insurance operations. Indeed, the business was commonly looked upon as a sort of beneficent gambling until after the middle of the nineteenth century. A New



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York statute of about the year 1834 specifically prohibited a number of different forms of gambling, and in parenthesis excepted Life Insurance.

The ethical distinction between gambling and insurance was pointed out by such early writers as Dymond and Wayland. This aspect of Life Insurance has gradually grown in appreciation until now it is universally considered immoral and dishonest in a man with dependents to fail to carry insurance.

Life Insurance is in many respects the antithesis of gambling. The essence of the latter is an impredicable chance. The fundamental purpose of the former is the equalization of this element in human affairs. It might be said with some show of reason that from the viewpoint of the insured a Life Insurance transaction, like a wager, is invested with a strong element of chance. Whilst this is true—otherwise the *raison d'etre* of insurance would be lacking—there is, even in this regard, a marked contrast. The gambler places his stake with the possibility of entire loss. The insured pays his premium with the certainty of definite return. The only question is **when.** In other words, Life Insurance deals with an event which is positively sure to occur, although the time of its occurence cannot be foretold. All insurance is founded upon the laws of probability, but, because of this element of certainty, which it alone enjoys, life underwriting is the surest basis for contracts entailing the certain payment of money.

The word "probability," in vulgar parlance, signifies that which is likely to occur in the opinion of the speaker, and rarely with any scientific knowledge of its likelihood. In Life Insurance terminology "probability" signifies a degree of chance closely approximating certainty, based on extensive past experience, the element of precision being introduced by the influence of the "Law of Averages."

Here, again, is a word which in popular usage has a very different meaning from that attached to it by an actuary. The term "average" is employed in ordinary speech to denote something which is commonplace—not extraordinary. This, in so far as it involves the idea of **normality,** conforms with the actuarial understanding of the word, but a vital divergence occurs with its applica-



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tion to an individual person or a single event. The most erroneous use of the term, as Hoffman points out, **(Law of Average, in Insurance Science and Economics)** is "when it is employed to forecast individual occurences, or to verify individual predictions of individual events which, if realized at all under such conditions, would be a mere matter of true accident, or pure chance. It is, in fact, the very opposite of the function of the average to forecast any particular event, or the occurence of any particular contingency. The proper use of the term is limited to the forecasting of normal events, in the order of normal frequency."

## SELECTION OF RISKS

The established mortality tables give us the probabiilties of death and the expectation of life, at different ages, of the members of a large group, under predicated conditions. Provided similar conditions obtain, these tables can be relied upon to indicate average occurrence, with no great variations. By creating modifications of the conditions a corresponding modification of the mortality in favor of the insurer is secured. If a company exercises due care to keep its aggregate risks at the standard contemplated by the tables, makes judicious investment of its funds and earns the rate of interest on which its operations are based, it takes no "risk" whatever in the ordinary acceptance of the word.

If it were possible to insure the entire adult population of a numerous community, or a representative portion of it taken without discrimination, it could be safely done by mere application of statistics at our command. But since the company is confined to risks that offer themselves, many considerations of a non-mathematical character enter into the matter. Naturally, the least desirable risks are the most desirous of obtaining insurance. In order to avoid undue discrimination against itself and in order to procure such a body of risks as will conform in death rate to the established mortality tables, it is necessary to scrutinize and carefully consider every proposal for Life Insurance made to the office. This process of scrutiny and examination is termed "selection."

"Selection" in Life Insurance is ordinarily understood to signify the acceptance and rejection of applicants fol-



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lowing medical examination. The scope of selection is, however, much wider than this, and embraces the regulations of companies which exclude certain classes altogether and restrict others to particular forms of insurance. In the category of methods for preventing adverse selection fall clauses of the policy contract exempting the company from liability under certain conditions. The most common of these is the suicide clause.

Selection is also exercised by refraining from business in unfavorable localities or declining to entertain applications from members of certain communities. Whilst extensive sections of the United States were thus precluded during the early period of the business, nowadays this form of discrimination is usually temporary and employed to guard against the effects of transient conditions, such as those arising from the present war.

"Inspection" of proposed risks, that is, enquiry about them through some expert agency, is a valuable aid to selection, especially in regard to estimating the moral hazard. Soliciting agents frequently perform a service in the nature of selection when they abstain from presenting to their companies the applications of undesirable persons, or when they voluntarily submit information which might not be elicited by the examiner.

All these methods of selection have the common object of securing as nearly as possible a homogeneous group of risks. The immediate result, however, is the introduction of extra-favorable risks. "Select lives," as those recently accepted are termed, enjoy a considerably lower mortality than that called for by the tables at their respective ages. For example, the death-rate amongst select lives at the age of 40 is, at the outset, less than 5 per thousand. At the same age, the death rate among persons who have been insured for five or more years is about 10 per thousand. The saving from this source is called the "benefit of selection." The influence of selection upon the death-rate gradually wanes and totally expires in about five years. The mortality tables in common use by Life Insurance companies deal with lives which have been insured for longer than five years, and for that reason are styled "ultimate tables."

It must be understood that self-selection, as representing the volition of the applicant, involves a sinister ele-



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ment which is constantly operating against a company and to protect itself from which vigilance is necessary. "Bad risks" commonly resort to extraordinary and sometimes dishonest means, to elude the tests of the company. Co-operation of life offices, which exchange information respecting impaired lives, is an effective measure of protection. Withal, the adverse influence of self-selection is generally felt by Life Insurance companies to some extent, as indicated by the almost universally higher mortality among holders of term and whole life policies than among those carrying endowment insurance.

Whilst the power of selection ceases with the company when the applicant is accepted (except in case of accident and sickness insurance, which all companies retain the right to terminate at will), the insured may exercise a species of selection at any time by canceling his contract. It was generally believed that this privilege of withdrawal would operate to the disadvantage of the company by the discontinuance of healthy lives and the persistence of impaired risks. This conclusion is not supported by the results of recent investigation, from which it appears that lapse is comparatively rarely an outcome of deliberate calculation; but is much more frequently the consequence of financial embarrassment or a desire for some form of selfish indulgence. It is a well-known fact that mortality among shiftless and unsuccessful men is markedly heavier than among the thrifty and prosperous. Contrary to expectation, then, lapses in legal reserve companies have a somewhat favorable effect on the mortality.

In the foregoing discussion we considered "average risks" which, although they vary in degree of acceptability, are all such as the company can conservatively insure at its regular rates and under its regular policy forms, with occasional modification of the conditions of the latter. In case physical condition, family history, or occupation impel the company to decline the insurance upon an applicant at any premium rate less than that of ten-year endowment, the policy will be issued at the regular rate for that form, but the insured may be deprived of the usual extended-insurance option, which permits of the continuance of the protection, without premium pay-



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ments, on the basis of term insurance, as will be explained hereafter.

These risks, despite the variation in quality, all conform to the general standard contemplated by the mortality tables. There is a class of lives which cannot be safely insured at the tabular mortality charges, but in which cases the extra hazard is of such a character that a conservative estimate of it may be made and an equitable compensation for it determined. Such lives are termed "under-average" or "sub-standard." This kind of risks is underwritten by but few companies, which adopt four different methods of adjustment, as follows: 1. The Lien System. A lien is placed upon the face of the policy, reducible yearly by a certain amount, generally that of the premium paid. 2. The Extra Premium Plan, by which the regular rate is increased to a fixed amount. 3. The Advanced Age Plan. In this case the insured is charged the regular premium for an age in advance of his own. 4. The Special Dividend Plan. Under this system an ordinary policy is issued, but the insured is placed in a special class of similar risks, and the dividends paid are determined by the mortality experience of that class.

So far as the insured is concerned, each of these several methods has one of two distinct effects, i. e., the reduction of the indemnity in the event of his death before the expiration of the lien, or extra cost to him of the protection. The Special Dividend Plan has the latter effect, because practically all participating insurance now provides for annual distribution of dividends which may be applied on premium payments.

## THE PHYSICAL HAZARD

In no other branch of the Life Insurance business is the division of responsibility and the co-operation of different departments of a company so great as in the selection of risks. The medical "director" is actually chief adviser in this matter. His action is rarely arbitrary and then only in the direction of declination.

Many of the factors which affect the consideration of an application are not at all of a medical nature. There are non-technical questions which can best be answered by an executive officer. For example, a man who has



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twice been through the bankruptcy court and is starting a new commercial enterprise, applies for a large amount of insurance. The business experience and acumen of the executive department must be relied upon to estimate the risk. Again, the knowledge of diseases peculiar to the sex might lead the medical director to consider women worse risks than men if the actuary, from his statistical resources, could not show that there are counterbalancing conditions that make the general male and female hazards about equal. The degrees of risk attaching to occupation are frequently non-medical questions, determinable only by reference to records of accidents.

The closest relation exists between the work of the medical and actuarial departments. Statistics compiled by the former officer would be practically worthless, would have no business significance,—except for the interpretation given them by the actuary. Consequently, medical directors and actuaries have always pooled the tabulated results of their experiences and worked in conjunction. One of the most valuable contributions to Life Insurance knowledge is represented by the recently published Medico-Actuarial Reports of an exhaustive investigation covering more than 2,000,000 of insured lives. In the following brief survey of the chief causes of rejections the data furnished by these reports is the authority for most statements.

**The Use of Alcohol.** The detrimental effect of alcohol on longevity has long been recognized in the business and it is accentuated by the recent findings. The free use of alcoholic stimulants lowers vitality, induces many forms of fatal disease, tends to moral deterioration and is the direct cause of numerous accidental deaths.

The United Kingdom Temperance and General Provident Institution of London divides its business into the Temperance Section and the General Section. Carefully compiled statistics covering a period of more than half a century indicate that among the non-abstainers, the deaths were 100 per cent of the expected, whilst in the other class they were no more than 74 per cent. of the tabular computation. The Medico-Actuarial Report, dealing with an entirely different set of exposures, reaches a practically similar conclusion.

The greatest difficulty in medical examinations is



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found in eliciting from applicants satisfactory information regarding alcoholic excess and venereal complaints. True and full replies to the examiners' questions are rarely given in cases where these impairments exist. The habitually excessive drinker is irregular in his consumption of liquor, keeps no account and invariably underestimates it. Every man who applies for Life Insurance considers himself "moderate" or "temperate" in the use of alcohol and it is a matter which does not admit of a standard which would have general application. What might not be considered excessive in a man of 45, would be in one of 25. At young ages a fixed habit in the consumption of alcohol, even though the daily amount be small, renders the case doubtful, because of the cumulative effect of drinking.

In this connection there is greater scope than in any other for primary selection by the agent. The examiner will sometimes have a personal knowledge of the applicant's habits in this respect, but persons whom it is most desirable to reject will frequently avoid being examined by physicians who have such advantage, and as a matter of fact, companies prefer that an applicant be not examined by his family physician or one intimately acquainted with him. This to avoid the natural predisposition in his favor which might be expected in such cases. The solicitor is in a better position than anyone else to make enquiry respecting an individual's practice in the use of alcohol and the company has a right to expect of him honest and diligent effort in the matter.

**Tuberculosis.** Increased knowledge of preventive treatment, improved sanitation and education of the masses have effected a marked decrease in the spread of infection and in mortality from this cause. As a consequence, a family history tainted with a tubercular record is no longer a decisive bar to insurance. In fact, unhealthful environment and exposure to infection are now-a-days deemed more serious considerations than the influence of heredity. Provided an applicant of mature age and **normal weight**, living in favorable surroundings, has no other disqualification than one or two cases of tuberculosis in his family, most companies will accept him. Of course, if these cases have been of recent occurrence



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and the applicant has been living in contact with them, the conditions put another aspect on the question.

When there is a history of tuberculosis and the applicant is underweight, has experienced blood-spitting, or exhibits any sinister tendencies, his is a sub-standard risk at the best.

**Pleurisy.** This is a more serious impairment than it is generally understood to be. Unquestionable authorities maintain that a great majority of pleurisies are tubercular. Investigation indicates that where there has been one attack within five years of application the death rate is 146 per cent. of the expected, between five and ten years 113 per cent. and over ten years 92 per cent. The hazard is increased by underweight and a bad environment.

**Sugar and Albumen.** The Report shows a lower mortality than might have been expected in connection with these impairments, but it must be borne in mind that companies have been very rigorous in the rejection of applicants whose urine disclosed the presence of sugar or albumen and the figures are doubtless materially affected by this fact. In recent years greater leniency has prevailed and an idiosyncrasy, not infrequent among young men, is recognized where the subject's urine occasionally exhibits traces of albumen without the accompaniment of underweight or any other indication of physical impairment. The discovery of casts under the microscope removes the applicant from standard classification and probably entirely precludes him from insurance.

In order to accept any case exhibiting sugar or albumen the company will need to extend its investigation over a sufficiently long period to ascertain without question that the condition is a transitory one.

**Abnormal Weight.** As indicators of disease and precursors of lesions the conditions of underweight and overweight are of grave import. The existence of either condition will always prompt the medical director to make a close scrutiny of the examination and family history of the applicant.

Underweight greatly increases the mortality at younger ages, with a progressive decline in the death rate associated with this condition as the age at entry or date of insurance advances. Thus, 25 to 30 pounds



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below standard at age 20 to 24 is accompanied by a mortality of 127 per cent., whilst among entrants from 35 to 39 it is nearly normal, whereas the mortality of underweights between 44 and 63 appears from the Report to be even better than among those of average weight.

The reverse of this is true with regard to overweights. Young overweights show an only slightly unfavorable mortality, whilst at the older ages the results are strikingly bad. Overweights between 35 and 45 pounds at ages of entry 20 to 24 show a death rate of no more than 104 per cent., but between ages 39 and 45 the mortality is 141 per cent. The results in the former set are, however, doubtless modified considerably by the disappearance through lapse and maturity of a large number of the risks before the dangerous period is reached.

Excessive weight is a more potent disqualification than lightweight. When the latter is a family characteristic and the applicant is in good health it is commonly disregarded. Overweights are prone to heart disease, apoplexy and premature arterio-sclerosis, or hardening of the arteries. They are especially liable to contract rheumatism and diabetes. They offer little resistance to infection and shock, and succumb readily to accidents and surgical operations. As a rule, they eat and drink immoderately, whilst taking insufficient exercise.

**Irregular Pulse.** In all cases of this nature repeated examinations are made to ascertain whether the irregularity is of a permanent or temporary character. A persistent condition of rapid, intermittent or irregular pulse is always cause for rejection.

The majority of declinations will come under the foregoing heads, but there are, of course, innumerable other causes. Whilst each case presents an individual problem, the medical director views it in the light of averages. In a doubtful case, the question is not so much, what will be the result of accepting the particular applicant, as, what would be the effect on the company's business of insuring 1000 such risks.

**Blood Pressure.** A great aid to selection has been afforded in late years by blood pressure readings, secured through the medium of an instrument bearing the formidable name of sphygmomanometer. The practice has been established long enough to prove that the register of



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blood pressure is not only valuable in detecting functional derangements of which the symptoms are obscure, but also in giving early indications of serious diseases in their incipient stages. The records of one company show that among 525 accepted applicants of various ages with an average systolic pressure* of 152, the mortality was 30 per cent. higher than the company's general average. In another group, all of whom were rejected, the average systolic pressure was 161. These cases were followed up and investigation disclosed among them a death rate almost 250 per cent. of the company's average.

Average blood pressure readings are as follows:

| | | | |
|---|---|---|---|
| Ages | 15 | to 20 | 119 |
| " | 26 | to 30 | 120 |
| " | 41 | to 45 | 123 |
| " | 51 | to 55 | 133 |
| " | 56 | to 60 | 134 |

## THE MORAL HAZARD

In many applications for Life Insurance an element enters which is often indefinable and sometimes dealt with by intuition rather than on any fixed principles. On the other hand, the moral hazard is at times flagrantly apparent, as when an able-bodied, self-supporting man attempts to place insurance on an aged parent, with himself as beneficiary. Between such a case and that of a man who has recently failed in business there is a marked difference in the degree of moral hazard, but it is by no means negligible in the latter instance.

A moral hazard is apprehended and consequent investigation is made, when the proposed beneficiary has no apparent insurable interest, when the amount of insurance applied for is larger than the income of the applicant would seem to warrant, when the applicant is a man of shady reputation or one addicted to some form of dissipation. Men who have been convicted of crime, who have attempted suicide, been arrested for carrying concealed weapons, fined for automobile speeding, as well

*Systolic blood pressure is that occasioned by the regular contraction of heart and arteries in forcing the blood outward. Diastolic blood pressure is that produced by the expansion of heart and arteries in the regular process of beating.



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as persons whose business is speculative or questionable, present cases of moral-hazard.

It is probable that the rapidly extending practice of writing business or corporation insurance involves moral hazard in a comparatively new form. In these cases the beneficiary is usually a firm or company which pays the premiums and the insured an officer or employe. Conservative companies will not accept applications for this kind of insurance without carefully investigating the relations of the interested parties and establishing the fact of a genuine insurable interest.

From the foregoing it will be inferred that coincident with the constant effort of the companies to secure new business is an endeavor to keep their risks at a standard which will result in a death rate not to exceed that called for by the mortality tables. As a matter of fact, most companies succeed in maintaining an average mortality considerably lower than the tabular, and this, as we shall see, is one of the two main sources of dividend returns to policyholders.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### II

**11. State the basic principle of insurance.**

*The distribution among a number of the individual loss.*

**12. Explain the difference between "risk" in the conventional and in the technical sense.**

*In the former sense it is indefinite and incalculable; in the latter it is the reverse.*

**13. What enables a company to make a definite charge for an individual risk?**

*The Law of Averages.*

**14. Wherein does Life Insurance resemble gambling and in what essential is it distinguished from gambling?**

*The uncertainty of individual life places the insured in something of the position of the gambler. The essential difference is that, whilst the gambler may lose his entire stake, the insured pays his premiums with the certainty of definite return.*

**15. Define the technical term "probability."**

*It means a degree of chance approximating certainty, based on extensive past experience, the element of precision being introduced by the influence of the "law of averages."*

**16. What degree or character of actual risk is involved in the business of a Life Insurance Company?**



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*None but that contingent on bad management, such as poor selection of risks or faulty judgment in investing its funds.*

17. **Name some of the factors that operate in selection of risks.**

*Medical examination, inspection, agent's investigation, companies' regulations and volition of applicants.*

18. **In the work of "selection" which two departments of a company co-operate closely?**

*Medical and Actuarial.*

19. **In your opinion what is the most important thing for the agent to ascertain in connection with an applicant's habits?**

*His practice in the use of alcohol.*

20. **State some of the advantages of the Blood Pressure Test in the medical examination.**

*It is valuable in detecting certain pathological changes and also in giving indication of impending trouble.*

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III

# Mortality Tables and Principles of Rate-Making

BY FORBES LINDSAY

The early charges of individual underwriters and companies for life insurance were purely arbitrary. The first definite mortality figures to be applied to the purpose were compiled by Dr. Richard Price in 1780 from the registers of two parishes in the city of Northampton, England. Grossly defective as it was, the Northampton Table remained the standard of computation for nearly a century. As its principal error was the indication of a mortality greatly in excess of the general death rate, it proved a profitable basis for the calculation of life insurance premiums. On the other hand, companies that used its data for computing annuities suffered severe losses.

The Carlisle table, published in 1815 and derived from a similar source, was prepared on scientific principles, with great discrimination. Its figures are about 40 per cent lower than those of the Northampton Table and approximate to the figures of the later tables compiled from insured lives which show the lower mortality that would naturally result from selection. The Carlisle table came into extensive use and is still considered valuable by actuaries, especially in the calculation of survivorship benefits, because of the preponderance of female lives in its material.

The most reliable mortality tables are those produced by investigation of insured lives. The records of life insurance companies are free from the errors and falsities to which population statistics are subject. The former relate to comparatively homogeneous groups and embrace a variety of relative information of more or less value in the consideration of risks. The first such table was prepared from the experience of the Equitable Society of London and published in 1834. Nine years later the tabulated mortality experience of seventeen British of-

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fices was made available. This table, known as the "Actuaries" or "Combined Experience," was adopted as the standard of computation by the Insurance Department of Massachusetts which, in 1859, introduced the methods of state supervision now generally practised in this country.

The Actuaries Table of Mortality is deduced from an inspection of 84,000 policies, of which there were nearly 14,000 terminations by death in a period of 71 years. The average of duration among the policies was something less than eight and one half years, which fairly corresponds with present experience, despite the great changes in policy conditions that have taken place during the interim.

The female risks were treated separately in this examination and exhibited a considerably heavier mortality than that of the males between the ages of 20 and 50, but at older ages the comparative condition was reversed. These results have been confirmed from many sources, except for certain recent statistics which appear to indicate that at the extreme limit of old age males outlive females. Among annuitants, however, the mortality of women is lower at all ages than that of men. This pronounced difference in death rate between female policyholders and female annuitants is probably attributable to the fact that the former are generally married women and mothers, the latter generally spinsters and well-to-do widows.

The question of female morbidity and mortality is constantly growing in importance to life insurance companies and is particularly interesting because of the pronounced modifications in both sickness and death rate among women which may reasonably be looked for as the result of factors already in operation. The excessive mortality among females at the younger ages is mainly due to child-birth, involving immediate fatality or impairment of vitality. At advanced ages women have the advantage of leading less exposed and arduous lives than men, with the natural consequence of superior longevity. That this conclusion is correct would seem to be borne out by statistics applying to working women alone which reveal an exceptionally high mortality after middle-age.

How will the insurability of women be affected by



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their constantly increasing entrance to fields of manly occupations, accompanied by a tendency to avoid motherhood? The question is an urgent one because the proportion of female applicants for insurance and the extent of protection demanded by them individually are bound to increase in correspondence to the growth of this movement.

I have dwelt at length upon this point chiefly because it affords a typical illustration of the many considerations of more or less complex character that enter into life insurance policy and rate-making.

The first important mortality schedule to be constructed in the United States was based upon the experience of the Mutual Life Insurance Company of New York, with arbitrary adjustment of the figures for the older ages, as to which the data was inadequate. This table was published in 1868 and has since been widely used by legal reserve companies, as well as by state insurance departments as the standard upon which to compute the liabilities of companies.

The "American" Table, as it is called, and other mortality tables compiled in this country show marked divergences from the British statistics. The former indicate a decidedly lower death rate in the period between 35 and 75 years of age, and a higher rate at the extremes of life. No conclusive explanation of these differences has been arrived at. There is an entire absence of evidence to support the deduction that the general average of life in America is longer than that in Great Britain, though the average life among insured persons may be so. A probable explanation may be found in the effects of selection. In the United Kingdom a much larger proportion of the insured apply voluntarily than in this country. It will readily be understood that a better average of risks is secured where a large majority enter through persuasion.

Several other investigations in Great Britain and in the United States have resulted in valuable data respecting mortality and collateral subjects. In fact, such research is constant and important contributions to vital statistics are made yearly by life insurance companies and kindred institutions.

It may be of interest to note the variations in the



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several tables of mortality which have been employed by insurance companies since the inception of the business. We will take the indicated death rate in 100,000 at age 45. Northampton (1780), 2,401; Carlisle (1815), 1,481; Actuaries (1843), 1,221; American (1868), 1,116; Healthy Males (1869), 1,294; Meeches (1881), 1,120.

The average mortality indicated by the standard tables is considerably in excess of that experienced by the majority of companies, and especially those which use an "ultimate" table; that is, one based on risks which have been insured for longer than five years and so, as a whole, have outlived the effect of selection. This is due to more effective selection, as the result of improved knowledge, greater skill in medical examination and increased care in the "inspection" of risks. The experience of recent years reveals special divergences from the tabular death rate at certain stages of life. For instance, the death rate among insured males is markedly lower at younger ages and somewhat higher at older ages today than it was when the "American" Table was compiled. Between ages 25 and 40 the expectation of life has increased two to three years. At more advanced ages the average of life has been shortened, varying from eight months at 41 to three and one-third years at 85.* It must be understood that such a condition will not affect the average mortality in a group, as all the lives exposed must expire ultimately, and the effects of all fluctuations must be confined within the limits of human life, that is to say, 100 years. Therefore, a reduction of mortality at one stage of the series will necessarily be accompanied by an increase at another.

There is in the possession of American life offices tabulated data, derived from their several experiences, which affords a sufficient basis for the construction of a mortality table that will indicate much more accurately than do the tables in use the death rate among insured persons at the present day. The compilation of such a table is contemplated by the Actuarial Society of America and its scientific value will be ample justification of

*This condition, the cause of which has not been conclusively shown, is peculiar to the population of the United States. In European countries there has been a marked decrease in mortality at all ages in the past thirty years.



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the task. It is extremely doubtful, however, whether any practical benefit could be gained by the adoption of a new standard of computation by the companies. Certainly the popular belief that such a step would result in a reduction of the cost of insurance is a delusion.

The premium on a participating policy represents the **average** cost of insurance and a margin of safety. The surplus amount serves to meet adverse fluctuations in mortality and provides dividends. The actual or net cost to the insured is not regulated by the premium charge, but by the amount of saving effected through profitable and economical management and through careful selection of risks, which amount is applied to the reduction of the premium in the form of a dividend.

To make this matter clearer, let us assume a policy on which the annual premium is $24. The expense charge is, we will say, $3, and the balance is designed to meet the policy's contribution to current mortality and to supply the necessary reserve deposit. Now, we will suppose that the company's actual death-rate is sufficiently below the tabular to enable it to save $2 of this policy's calculated contribution, and its interest earning is sufficiently higher than its standard rate to enable it to credit this policy with 50 cents from the latter source of profit. At the close of the year the policyholder will receive a dividend of $2.50, making the net cost of his insurance $18.50. This process will be repeated year after year. After the initial payment he will always send his check to the company for the difference between the gross premium and the net cost. It is obvious, therefore, that, the net charge being regulated by the actual cost to the company of carrying the risk, the amount of the premium is of little consequence.

In only one way is it possible to reduce the cost of insurance, that is by a reduction of the expense charge, which is already as low as practicable. Nor would the adoption of a new mortality table result in a lowering of non-participating rates, for these are necessarily fixed with a view to competition with the net cost of participating insurance.

## THE OPERATION OF MORTALITY

A mortality table has been defined as a "barometer



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of vital statistics" and again as "a picture of a generation passing through life." A more graphic simile may be furnished by comparing it to a time-table marking stages in the journey through life of a generation of human beings. Not, however, a time-table used by the travelers themselves, but by the train dispatcher in regulating their movements.

On page 53 of Gephart's **"Principles"** and in almost any text book of life insurance, will be found tables of mortality. The references in these papers, unless otherwise indicated, will be to the American Table, a few sets of figures from which are inserted for immediate convenience.

| Age. | Number Living. | Deaths Yearly. | Rate per M. | Expectation of Life. |
|---|---|---|---|---|
| 10 | 100,000 | 749 | 7.49 | 48.72 |
| 20 | 92,637 | 723 | 7.80 | 42.20 |
| 30 | 85,441 | 720 | 8.43 | 35.33 |
| 40 | 78,106 | 765 | 9.79 | 28.18 |
| 50 | 69,804 | 962 | 13.78 | 20.91 |
| 60 | 57,917 | 1546 | 26.69 | 14.10 |
| 70 | 38,569 | 2391 | 61.99 | 8.48 |
| 80 | 14,474 | 2091 | 144.47 | 4.39 |
| 90 | 847 | 385 | 454.54 | 1.42 |
| 95 | 3 | 3 | 1000.00 | .50 |

The adjoining mortaility table assumes a group of 100,000 beings, at the age of 10. The infant mortality is of little practical value to companies insuring only adults, except in so far as it enters into the calculations of contracts involving contingent annuities. The first column indicates the attained age of the survivors of the group year by year. The second column gives the total number living at the beginning of each year and at every age between 9 and 96. The third column shows the number of deaths each year in a group. The next column states the mortality rate per thousand. The final column exhibits the average expectation of life enjoyed by the survivors of the group in any particular year or at any age. It can hardly be necessary to state that this table does not represent the precise experience of any life insurance company, but its conclusions are scientifically deduced



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from the mortality actually experienced among insured lives in sufficiently large numbers to be reliable. Nor is it to be supposed that the death rate of a company will ever be precisely consistent with that expressed by the table, although there may be exact correspondence in the averages taken for a period of many years. In fact, the mortality of an active life insurance company is a constantly fluctuating quantity.

Let us examine our group at the beginning of the twenty-first year of exposure, when the survivors are 30 years of age. Of the original 100,000, there are living 85,441. During the year 720 of this number will die, giving us a death-rate expressed as 8.43 per thousand. The survivors at the beginning of the year had a life expectancy of 35.33 years. Since some of this number die within twelve months and others live to extreme old age, it is evident that the expectation of life has no direct bearing on the individual. It indicates the **average** duration of life which will be experienced in the group. The 85,441 persons living at age 30 have a total of 30,018,630 years to be distributed among them, which gives each 35.33 years on an even division, in which case our group would totally expire at age 66. As a matter of fact, the division is far from even and the last of the group live to age 96.

It is clear that, considering the data supplied by a mortality table, we must assume the attitude of regarding all references as impersonal. The figures have no application to an individual, but to an average unit in an imaginary aggregation of human beings. We cannot correctly speak of a particular man at age 40 as having a life expectation of 28.18 years, though that will be the **average** number of years which will be lived by a **group** of men aged 40. Nor may we deduce from this that the probable time of death for a man aged 40 is in his 68th year. The **most probable** year of death for every member of the group must be that in which the greatest number of deaths occur. That year is the 73rd of life when the mortality reaches 2,505. Consequently a member of the group aged 40 has a greater probability of dying in his 73rd year than in any other year. Again, the probable life-time is indicated by the stage in the mortality progression when the chance of living and dying is equal.



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It must be the year in our table when the members of the group which were living at a certain age have been reduced to exactly half their number at that age. For example, there are 78,106 risks surviving at age 40. The survivors at age 69 number 40,390, and those at age 70 number 38,569. Therefore, the probable life of the member aged 40 is between 29 and 30 years, whereas, the expectation of life, or average life of the group aged 40, is 28.18 years.

(DeMorgan, **Theory of Probabilities**; Venn, **Logic of Chance**; Karl Pearson, **Mathematical Theory of Evolution**; Makeham, **Assurance Magazine** (1866) XI, 315.)

It is possible that a company might have an excessively high rate of mortality over a limited period. Such an experience would not be injurious to the company, provided it held a sufficient reserve to meet the excessive fluctuation and a sufficient number of risks to insure the full operation of the Law of Average. In actual practice, however, the company has ample ground for expecting a consistently favorable death rate, and the average experience of all life insurance companies combined is less than 80 per cent. of the tabular mortality, varying from about 50 per cent. to about 90 per cent.

The American and similar mortality tables are not applicable to Industrial Life Insurance. Companies doing this class of business insure infant lives, as well as adults, in whose cases the occupational hazard is uncommonly great. The mortality experience of these companies is necessarily much greater than that among lives insured under what are termed "ordinary" policies, that is, those of $1,000 or more in amount. For example, at age 40 the American table indicates an expected death-rate of 9.79 per thousand, whilst the Standard Industrial table contemplates 14.65 deaths at the same age. This latter table, which is quite as trustworthy and accurate as the former, was derived from the experience of the Metropolitan Life Insurance Company. It is employed by other companies doing a similar business and is the standard of the New York Insurance Department.

## INTEREST AND DISCOUNT

Successful operation of life insurance depends upon two main factors—**Interest and Law of Average.** In



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order to make his calculations confidently the actuary must be able to assume certain maximum averages of mortality and certain minimum rates of interest.

If it is known that $100 invested will yield 3 per cent. interest, or will have earned $3 at the end of a year from today, we may treat the $100 in hand as the exact equivalent of $103 to be paid one year hence. Again, if we assume that the $103, principal and interest, will be left to accumulate at the same rate, at the close of the second year there will be payable $103 plus $3.09, or $106.09. The last sum is obviously also the equivalent of $100 in hand, and of course each one of the amounts in question is the equivalent of the other. The prolongation of this calculation constitutes a table showing the future value, year by year, of a certain sum of money, generally $1.00, improved at a stated rate of interest.

When, however, it is desired to ascertain the present value of a sum to be paid at a certain future time or at certain future intervals, a more convenient table is available. The values in the latter, called a discount or compound discount table, are derived by simple proportion from the interest table. Thus, if $103 to be paid twelve months hence is the equivalent of $100 present, $100 to be paid at the end of the year is the equivalent of 100/103 of $100, or $97.0874. Similarly, the present value of $100 to be paid at the end of two years is equivalent to 100/106.09 of $100, or $94.2596.

These tables are used to calculate the increment to be anticipated from the investment of funds, the present value of future payments to be made to and by the insured, as well as for other purposes. The calculations of the actuary constantly involve the representation of sums of money in their equivalent present and future values.

On these two factors—average mortality and the operation of interest—scientifically employed, the principles of rate-making rest.

## REGULATING PREMIUM CHARGES

The aim of the company is to secure as nearly a homogeneous group of risks as possible, to the end that a uniform charge may be made to all persons of the same age for certain policies. When the condition of



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an applicant excludes him from the standard limits of insurability maintained by the company, his application is declined. We have seen that some companies insure such "under-average" lives on special conditions. The prevailing principle of premium-making is, however, a uniform charge for each age and each form of policy.

Every company issues numerous differing forms of policies involving various guaranteed benefits which represent liabilities. By far the largest portion of these liabilities are future death claims, but there are others, such as endowments, deferred annuities and disability indemnities. In making its rates, then, the company requires to calculate on each premium contributing to the reserve such a sum as will in its ultimate accumulation, and when added to the similar contributions of other policies, enable the company to meet each and every liability at the time of its maturity. **This is the essential principle of Legal Reserve Life Insurance and the feature which mainly distinguishes it from other systems.**



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

QUESTIONS AND ANSWERS

III

21. **Name the two mortality tables chiefly used in America.**

*"American" and "Actuaries."*

22. **Compare the mortality among insured males and females.**

*It is considerably lower among the former between ages 20 and 50, but higher at greater ages. The mortality of female annuitants is lower than that of males at all ages.*

23. **Name the conditions which are fast placing the female risk in a new aspect.**

*The constantly increasing tendency of women to earn their own livelihood in occupations formerly monopolized by men, together with a growing disposition to eschew marriage and avoid motherhood.*

24. **Comparative mortality statsitics indicate a lower death rate in America than in Great Britain among insured lives between the ages of 35 and 75. Give a probable explanation.**

*In America applicants are almost invariably secured by solicitation, in Great Britain a large proportion take the initiative. As a consequence the element of adverse self-selection is less here than there.*



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25. **Would the reduction of a Participating premium affect the cost of insurance?**

*Not in the least. The cost of insurance is not regulated by the charge for it, but by the company's experience in death losses, interest earnings and expense of management.*

26. **How would you calculate the probable life-time of any member of an insured group?**

*It is indicated by the year in which the living members of the original group equal the dead.*

27. **What is the "expectation of life"?**

*The average future life-time of the members of a group.*

28. **What is the average mortality experience of the combined companies?**

*About* 80 *per cent of the tabular rates.*

29. **What are the main factors in Life Insurance operation?**

*Interest and the Law of Averages.*

30. **What is the essential principle of Legal Reserve Life Insurance?**

*The collection through premiums of such sums as will in their ultimate accumulation enable the company to meet each and every liability at the time of its maturity.*

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IV

# The Net Premium

BY FORBES LINDSAY

If we deduct from a life insurance premium that portion of it which is designed to meet expenses and certain contingencies of management, we have the "net premium" as a remainder. Roughly speaking, the net premium supplies the funds upon which the company depends to discharge all claims arising out of policy contracts; the loading furnishes the means of covering the cost of administration and any losses involved in it. For the present we shall consider only the net premium.

Returning to the mortality table, we find that at age 50 there are 69,804 lives exposed. Now, let us suppose that the members of this group agree to insure one another in the sum of $1,000 each **for one year**, taking this table for a guide and making no allowance for expenses. The table indicates that 962 of their number will die in the course of the year, and the group must make provision to pay $962,000. Dividing this amount by 69,804, the number of persons in the group, we find that the share of each is $13.78. You will notice that these figures correspond with the death rate per thousand at age 50, and we might have reached the result in another way. If 13.78 persons per thousand of a group die within a year, in order to pay the necessary death claims of $13,780 per thousand, each member of the group must subscribe $13.78.

So far the calculation is a simple matter of proportion, but we must introduce a very important factor into it. All life insurance calculations are made on the assumption that premiums will be paid at the beginning of the year and death claims will be discharged at the end of it. (This is, of course, at variance with actual practice, as will be explained hereafter.) If the treasurer for our group collects immediately the aggregate premiums necessary to meet the death claims which will not accrue until the end of the year, it is evident that he has the use of the money for twelve months. In such case he

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should not need an amount equal to the face of the prospective death claims, but only such a sum as improved at interest for a year will equal the ultimate payments. Let us assume that 3 per cent can be earned. Then, our treasurer must have in hand the present value of $962,000, payable one year hence, which is $934,006. The share of each member in the latter fund will be $13.38.

At the close of the year, claims have been paid on the lives of 962 members and our group is reduced to 68,842, each of whom is 51 years of age. The table shows a definite decrease in the group by mortality until the last members expire at age 96.

We will now suppose that the survivors agree to repeat the arrangement for another year. Making their calculations on the same basis as before, they must provide for the payment of $1,001,000 by the immediate collection of $971,871. The contribution of each member to the latter fund will be $14.10.

In the same manner our group might continue the insurance through life, in which case the premium chargeable to each of the survivors would increase year by year, thus: Age 50, $13.38; 51, $14.10; 52, $14.94; 60, $25.92; 70, $60.19; 80, $140.26; 90, $441.31; 95, $970.87.

This is a perfectly scientific system of rating the mortality charge for life insurance. Formerly several regular companies, called Natural Premium companies, constructed their premium tables on this basis, with due allowance for expenses. The plan is at present the basis of operation of several assessment associations. It has the serious disadvantage of a high and constantly increasing cost in the later years of life when a man's producing ability is naturally decreased. A still greater objection from the company's point of view is that as the premiums tend to become onerous, healthy members lapse, leaving the company with a preponderance of impaired risks at advanced ages, and seriously disturbing its averages.

The present uniform Legal Reserve premium is derived from the "natural" premium by reduction and equation. The actuary calculates the present worth, or equivalent sum, of all the net future natural premiums chargeable at a certain age. The result is the Net Single Premium. From this, again, he calculates its equivalent



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in equal yearly payments and so arrives at the Net Annual Premium. Under this system the insured pays more than is necessary to meet his contributions to the mortality experience during the earlier period of life, and less during the latter, the balance during the former period being accumulated as a reserve to meet the excess requirements of the latter period.

By way of illustrating the process of arriving at net premiums for life policies we will now suppose that, instead of agreeing to insure one another for one year only, the members of our group at age 50 decide to carry the arrangement through the whole term of life, on the understanding that none will withdraw. They have no idea how long any individual will live, nor how soon he may die, but they can depend with practical certainty on an average length of life and a definite number of deaths at each age in the progression.

We have seen that in order to pay all the expected death claims among 1,000 lives at age 50, amounting to $13,780, there must be in hand at the beginning of the year $13,380 which will earn 3 per cent. interest. The latter sum is collectible at the rate of $13.38 from each member and is **the single net premium at age 50 on the basis of the American Experience Table and 3 per cent. interest for $1,000 insurance for one year.** The first step in the process of determining what premium must be charged to each member of our hypothetical group in order to insure him and each of his associates in the sum of $1,000 **for life** is to ascertain the amount present in hand which will be sufficient, when improved at interest, to meet each and all of the death claims as they occur.

We start with 69,804 lives and before disposing of them shall have to pay out $69,804,000. The table leads us to expect 962 deaths in the first year, 1,001 in the second, 1,468 in the tenth, 2,321 in the twentieth, and so on, until at the close of the forty-fifth year of the insurance and the ninety-fifth of life, the three last survivors of the group die. We must therefore provide for the payments of $962,000, $1,001,000, $1,468,000, $2,321,000 and $3,000 in the respective years mentioned as well as a definite sum in each of the intermediate years. Our 3 per cent discount tables indicate that the present value of $962,000 payable one year hence is $934,006, that the present value of $1,001,000 payable two years hence, is $943,-



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543. In like manner we may ascertain from our mortality table the number of deaths in every year and from our discount tables the present worth of the amount to be paid in death claims every year. The sum of these present values will give us the aggregate Single Net Premium which our group would need to have in hand in order to cover all losses. This aggregate, divided by 69,804, the original number of our group, gives us $555.22, **the individual single net premium** and the precise amount which each member at age 50 would need to pay in order to be insured in the sum of $1,000 for life.

It rarely happens, however, that a man cares to pay for his insurance outright. By far the majority prefer annual payments, and the next step in our process is to ascertain what sums receivable yearly in advance are the equivalent of $555.22 in hand.

Now let us assume that our group undertakes to pay each of its members $1.00 upon the anniversary of his birth, beginning at age 50, and continuing throughout his lifetime. It is obvious that in order to carry out such a plan the treasurer must be in possession of $69,804, or enough money to pay $1.00 to each member at once. He must also provide to pay $68,842 to the survivors one year hence, $67,841 in two years time, $66,797 in three years and $3.00 in forty-five years. With the aid of the discount table, as before, we may determine the present worth of the different sums that are to be paid out year by year in order to give every member of the group $1.00 at the beginning of each year. The aggregate of these present values is $1,065,973. This sum, divided by 69,804, the original number of the group, will give us $15.27 which is the amount that each man would be required to pay at once in order to assure to every member an annuity of $1.00 a year for life.

We have seen that the net single premium for $1,000 insurance for life at age 50 is $555.22, and that $15.27 paid at the same age is the exact equivalent of $1.00 a year to be paid during life. Therefore, $555.22 divided by $15.27 will give us the life annuity which may be purchased by the former amount. In other words, $36.36 to be paid each year in advance during life is the mathematical equivalent of $555.22 in hand. But we have demonstrated that $555.22 is the **net single premium** for $1,000 whole life insurance at age 50. Consequently



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$36.36 must be the **net annual premium** at that age. That is to say, the net single premium will purchase $1,000 of life insurance outright or it will purchase a life annuity equal to the net annual premium on $1,000.

The net premiums applicable to limited payment policies are found by a similar process. For example: in order to find the net level or annual premium which, if paid **for twenty years,** would be the equivalent of net level premiums paid throughout life, we make an addition, as before, of the present value of the sums to be paid year by year in order to give every surviving member of the group $1.00 a year at the beginning of each year **for twenty years.** The aggregate of these present values is $902,279, and the contribution of each of the 69,804 members will be $12.93. The net single premium for life we know to be $555.22. Dividing this sum by $12.93 we have $42.95 which is the net annual premium for a life policy to be purchased in twenty payments.

Now let us revert to the table of present values of future payments from which we deduced our net single premium for whole life insurance. It will be remembered that we added the present values of all the mortality payments from age 50 to 95 inclusive and dividing by 69,804 obtained $555.22 as the net single premium necessary to be paid by each member in order to assure him of $1,000 at death.

We will now suppose that our group desires to secure $1,000 to each member **dying within twenty years,** without any benefit to the survivors. This is called Term Insurance and we shall find the appropriate net premiums for it by processes similar to those already employed. If we discount the yearly death claims occurring during twenty years and divide the aggregate by the number of original members we shall find that the net single premium chargeable to each is $317.60. We have already calculated the present value at age 50 of an annuity of $1.00 a year for twenty years. By dividing $12.93 into $317.60 we obtain $24.57, the net annual premium for $1,000 at age 50 on the twenty-year term plan.

It is now necessary to consider a contract which does not involve death benefits, to-wit: Pure Endowment. Under this form, which is as rarely sold as Single Premium insurance, the company undertakes to pay to a man a



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certain sum in the event of his surviving a certain period, and nothing in the event of his previous death.

The calculation of the premium for Pure Endowment is extremely simple. The mortality table tells us that of our group numbering 69,804 at age of entry, but 38,569 will be living twenty years later. It will be necessary, therefore, to provide for the payment of $38,569,000 twenty years hence. Discounting the claims at 3 per cent we have a present value of $21,355,655, and dividing this amount by $69,804 we get $305.92 as the net single premium necessary to be paid by each member to assure him of $1,000 at age 70, provided he shall be alive then, and nothing otherwise. In order to find the net annual premium for this contract we simply divide $305.92 by $12.93 and obtain $23.67.

Endowment insurance is usually sold under a guarantee to pay a certain sum in the event of the insured surviving a certain period, and the same sum in the event of his previous death. We have seen that neither term nor pure endowment insurance will cover both these conditions, but that each of the contracts provides for one of them. It is obvious then, that in combination they will furnish the essential features of regular endowment insurance. And, as a matter of fact, regular endowment policies are constructed by combining the premiums and conditions of term and pure endowment insurance. To illustrate: the net level premium for a twenty-year endowment insurance of $1,000 at age 50 is $48.24, which is arrived at by adding the net level premium for twenty-year term insurance, $24.57, to the net level premium for a twenty-year pure endowment, $23.67.

The net premiums for all other forms of insurance are determined by processes similar in principle to the illustrations which have been given. (Most of the calculations in the foregoing paper may be found *in extenso* in Fackler's "**Notes on Life Insurance.**")

It may be added that for the sake of facility and economy of time the actuary employs algebraic formulæ in making his calculations composed of values designated by symbols known as the "commutation columns." These values are a grouping of the elementary items described herein in such a way that they can be readily used by the actuary to determine the premium he may desire.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### IV

31. **What is the "net premium?"**

*The portion of the gross premium which remains after the deduction of the "loading" for expenses.*

32. **What is the chief disadvantage of the Natural Premium system of rating?**

*It necessitates a yearly increasing charge, coincident with the advance of age, with the consequence that the burden of expense is heaviest in the non-productive period of life.*

33. **Describe the process by which the actuary arrives at the "level premium."**

*By calculating the present worth of all future net natural premiums, the sum of which give him the net single premium. From this he calculates the equivalent in equal year payments, which represent the net annual level premium.*

34. **What standard tables are used in calculating premiums?**

*The mortality, interest and discount tables.*

35. **What mathematical relation does a life annuity,**



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equal to the net annual premium, bear to the net single premium for similar insurance?

*One is the exact mathematical equivalent of the other.*

36. Is any reserve required on a Term policy? If so, for what purpose?

*Yes, on all except one-year Term policies. The purpose is solely to provide for the increase of mortality incident to advance in age, and consequently the reserve is calculated to expire at the end of the policy term.*

37. What is the composition of an Endowment premium?

*It is a combination of the premiums for Term insurance and Pure Endowment.*

38. What mathematical relation does the reserve of an Endowment policy bear to the face of it?

*The former is the sum which, received annually and compounded at a special rate of interest, will amount to the latter at the end of the policy period.*

39. A Life Insurance company makes two forms of contract which do not involve Life Insurance. Name them.

*Pure Endowment and Annuity.*

40. What is the chief impression made by the study of this paper?

*That Life Insurance is an exact science and that a company engaged in it incurs no business risks, except those incident to bad management.*

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V

# The Net Reserve

BY FORBES LINDSAY

It has already been said that all life insurance premiums are assumed to be paid at the beginning of the year and all death claims at the end of it. It is evident, then, that a company, even at the very commencement of its operation, is in possession of funds in advance of the time when they will be needed.

To emphasize this point let us revert to the illustrations used in the last paper. We had a group of persons insuring one another for a term of one year. At the beginning of the year the treasurer had in hand the amount which, improved at 3 per cent, would equal the expected death losses. This amount he held **in reserve** to pay the claims at the close of the year. We then supposed each member of the group to insure himself for the entire term of life in the sum of $1,000 by the payment of a net single premium of $555.22. These payments, singly and in the aggregate, formed a reserve to cover future mortality. When the first year's death claims had been discharged from the fund, the balance would be held **in reserve** for the same purpose, and so year by year until the payment of the last loss and the expenditure of the last dollar. Next we calculated the equal annual payments to be made during life, which would be equivalent to the net single premium, and obtained the net level premium of $36.36. This we understood to be considerably in excess of the mortality requirements of the earlier years. As a matter of fact the deaths per thousand at age 50 are 13.8 according to the table. And here, again, we would have a balance to be carried to **reserve** after disposing of the death claims at the end of the year.

From the foregoing it will be noted that with the exception of one year Term all net premiums for life insurance are theoretically composed of two elements—the mortality element to cover the cost in the current year,



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and the reserve element to provide for future mortality in excess of the future annual premiums which may be received. In order that the net premium may cover these various conditions it is, of course, necessary that the assumed rate of interest be earned. The failure to earn the required rate of interest would constitute virtual insolvency since the company would not technically be able to fulfil its obligations.

The rate of interest upon which the company bases its calculations is an important feature, and safety is the chief consideration in determining it. In the case of our group, insuring for one year only, 3 per cent is possibly an ultra-conservative rate, but where the insurance is to continue for life it becomes necessary to take into account the future years of the policy. The contract may continue on the books of the company for seventy-five years or even longer where the insured is under the age of twenty at the issuance of the policy. It is clear, therefore, that in fixing the rate of interest to be earned the company should adopt such a rate as will with practical certainty be realized in the distant future. This may be done without loss or disadvantage to the present policyholders, for when a company's earnings are in excess of its assumed earnings the balance is distributed to the insured in the form of dividends, as will be described later.

Naturally, the lower the rate of interest contemplated, the larger will be the principal necessary. A premium based on a 3 per cent reserve is higher than one based on 4 per cent. The policyholder who pays the former premium is, however, compensated by greater cash and other values.

Before proceeding to demonstrate the sufficiency of the net premium to meet all demands arising from mortality we will anticipate inquiry as to the effect of withdrawals. Discontinuance of members from a group will in no wise impair the ability of the group or company to discharge its contractual obligations. Let us take the case of a man aged 50 paying a net annual premium during his lifetime. In the first year his policy would contribute a mortality cost of $13.45, while he has paid a premium of $36.36. In the second year the net premium would again be in excess of the cost of the insurance although ultimately, on account of the increase



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in age, the cost of insurance would exceed the premium paid. This particular policy being one member of the group is liable at any time to become a claim just as the other policies in the group are liable to become claims. If the policyholder withdraws, his policy would no longer contribute the mortality cost presented above, but the company would be relieved of its obligation to pay one thousand dollars at his death. The remaining members of the group would continue just as before and no change in the premiums would be required.

Nor is the company's solvency in any degree dependent upon its continuing to secure new risks. The net reserves are ample in themselves to fulfil all contracts. A legal reserve life insurance company might cease to do business at any time and thereafter pay off each claim promptly at maturity. Practical illustrations of this fact have been furnished by several of the earlier companies which ceased to operate actively, and gradually wound up their affairs in the course of a number of years.

A legal reserve life insurance company is required by the insurance laws of the several states to have on hand at all times funds—approved securities being considered the equivalent of cash—at least equal to the NET VALUE of its outstanding contracts appraised on a basis which is technically termed the Minimum Legal Standard of Valuation. This Net Value is necessarily the amount of the Reserves since these are accumulated specifically for the purpose of discharging the contracts. The Net Value represents the exact difference between the present worth of the future net premiums to be collected from the insured and the present worth of the benefits guaranteed under the policy. In the case of a single premium contract there are no future net annual premiums and as a result the net single premium itself is the reserve. This net single premium is in itself sufficient, if the assumed rate of interest is earned, to pay the claim when it may become due.

The premium and the liability are in this case equivalents. To illustrate: at age 50 the net single premium, $555.22, improved at 3 per cent, will amount to $1,000 payable at death; $1,000 payable at death, discounted at 3 per cent, will give us $555.22 at present. A difference is, however, observable when the policy is to be paid for by annual premiums.

It must be understood that we have a group, sub-



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ject to average mortality, constantly in mind. The statements would not apply in any degree to a single life.

Let us suppose that the company has 65,000 risks of various adult ages on its books, insured under various forms of life policies. The mortality table will indicate the numbers living and dying each year, from which the company can determine the premium receipts and the death claims to be expected year by year, and the discount table will enable it to ascertain the present values of the amounts in question.

If the company should make such a calculation at the very outset of its business with a number of policies written, **but no premiums collected,** its net valuation statement would be the same as though all its policies had been issued on the single premium basis, for we have seen that the present worth of the net annual premiums on any life policy is equal to the net single premium for whole life insurance. But we will assume that the company is in its tenth year when it will have received a great many of the premiums which were classed as "future" at the time it commenced operations. It will also have paid a number of death claims and have written a certain amount of new business. We may imagine its net valuation statement to show the following figures: Present value of guaranteed benefits under outstanding contracts $24,000,000. Present value of net premiums to be collected on outstanding contracts $16,500,000. There is a difference here of $7,500,000 which represents the reserve. This sum the company must have in hand and should have accumulated from the premium receipts in excess of mortality expenditures during previous years.

If the company is in possession of this $7,500,000 the present value of its future premiums receivable plus the reserve held to apply upon future death losses exactly equals the amount of the aggregate future death losses. The company is solvent, and will remain so, provided it continues to accumulate a reserve equal to the difference between the present value of the premiums on its outstanding policies and the present value of the benefits guaranteed under them, and provided, also, that it realizes the rate of interest employed in its calculation. In such a case its admitted assets would exactly balance its liabilities and it would be constantly upon the point of precise solvency without any margin. We shall see,



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however, that in practical experience a well-managed company earns excess interest on its investments and enjoys a lower rate of mortality than the tabular rate. It is thus enabled to maintain a Contingency Reserve in the form of "surplus" or "unassigned funds."

It is necessary that a company create and set aside a surplus fund for the purpose of meeting incalculable and unforeseeable contingencies which may arise from various causes not inconsistent with good management. The fund is derived from the same sources as the surplus distributed to policyholders. It is impossible to regulate the amount by any uniform standard, although some states prescribe a maximum general surplus, stated in percentage of assets. The proportions of its contingency reserve should depend upon the conditions and prospects of a company's business. The fund should be ample for safety, without being so large as to needlessly withhold from the policyholders money which might be returned to them as dividends. The character of a company's investments will affect the question. Securities which are liable to sudden and extensive fluctuations should be supported by a larger surplus than would be required to safeguard farm mortgages, for example. It may be added that a company's general surplus does not need to increase in the same ratio as its assets, because with growth and age increased stability and decreased liability to adverse contingencies may be looked for in a well-managed concern.

We will now demonstrate the adequacy of the net reserves to meet all the contractual obligations of a company, using for the purpose extracts from tables given in Fackler's **"Notes on Life Insurance,"** where the calculations are carried out year by year from age 50 to the end of the mortality table. Whilst a certain age is assigned to the entire group in the illustration for the sake of convenience and simplicity, the calculations do not vary in method or principle from those which would be made if a number of lives at various ages were involved. In the original tables the unit of insurance is $1.00. In these papers we have adopted a unit of $1,000 and discarded decimals without any attempt at minute accuracy.

The columns are numbered to correspond with the following legends:



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## TABLE NO. 1

Col. 1. Year of Insurance.
2. Attained age at beginning of year—number insured.
3. Tabular number living at beginning of year—number insured.
4. Amount on hand at beginning of year for group and survivors.
5. Three per cent interest earned in year on sum in (4).
6 Sum of principal and interest: (4) + (5).
7. Death claims by Mortality Table due at end of each year.
8. Amount on hand at end of year after payment of death claims (aggregate reserve). (6) — (7).
9. Attained age at end of year.
10. Amount held for each survivor of the year—reserve for individual $1,000 of insurance. (8) divided by number of survivors.

Table based on American Experience Table and 3 per cent interest, to prove the sufficiency of the net **single** premium, and to show the amounts which must be on hand at the end of successive insurance years, to provide for a Whole Life Insurance of $1,000 each on a group of 69,804 persons 50 years old, and their survivors.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 50 | 69,804 | $38,756,228 | $1,162,687 | $39,918,915 | 962,000 | $38,956,915 | 51 | $565.89 |
| 2 | 51 | 68,842 | 38,956,915 | 1,168,707 | 40,125,622 | 1,001,000 | 39,124,622 | 52 | 576.71 |
| 3 | 52 | 67,841 | 39,124,622 | 1,173,739 | 40,298,361 | 1,044,000 | 39,254,361 | 53 | 587.67 |
| 4 | 53 | 66,797 | 39,254,361 | 1,177,631 | 40,431,992 | 1,091,000 | 39,340,992 | 54 | 598.74 |
| 5 | 54 | 65,706 | 39,340,992 | 1,180,230 | 40,521,222 | 1,143,000 | 39,378,222 | 55 | 609.92 |
| 11 | 60 | 57,917 | 38,614,319 | 1,158,430 | 39,772,749 | 1,546 | 38,226,749 | 61 | 678.13 |
| 21 | 70 | 38,569 | 29,957,835 | 898,734 | 30,856,570 | 2,391 | 28,465,570 | 71 | 786.82 |
| 31 | 80 | 14,474 | 12,578,735 | 377,362 | 12,956,097 | 2,091 | 10,865,097 | 81 | 877.42 |
| 41 | 90 | 847 | 800,575 | 24,017 | 824,592 | 385 | 439,592 | 91 | 951.50 |
| 46 | 95 | 3 | 2,870 | 8.60 | 2,956 | 3 | 44 | .... | ..... |

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## TABLE NO. 2

Col. 1. Year of Insurance.
2. Attained age at beginning of year.
3. Tabular number living at beginning of year—number insured.
4. Sum on hand end of previous year—see (10).
5. Annual premiums paid at beginning of year (3) × $36.36.
6. Total on hand at beginning of year.
7. Three per cent interest on sum in (6).
8. Sum of principal and interest: (6) + (7).
9. Death claims by Mortality Table due at end of year.
10. Amount on hand end of each year after payment of death claims (aggregate reserve). (8) — (9).
11. Year of insurance.
12. Amount held for each survivor of the year—reserve for individual $1,000 of insurance (10) divided by number of survivors.

Table based on American Experience Table and 3 per cent interest, proving the sufficiency of **annual premiums**, and showing what amounts must be on hand at the end of successive insurance years in addition to the premiums yet to come due, to provide for a Whole Life Insurance of $1,000 each on a group of 69,804 persons 50 years old, and their survivors.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 50 | 69,804 | $ | $2,537,906 | $ 2,537,906 | $ 76,137 | $ 2,614,043 | 962,000 | $ 1,652,043 | 1 | $ 24.00 |
| 2 | 51 | 68,842 | 1,652,043 | 2,502,930 | 4,154,973 | 124,649 | 4,279,622 | 1,001,000 | 3,278,622 | 2 | 48.33 |
| 3 | 52 | 67,841 | 3,272,622 | 2,466,536 | 5,745,158 | 172,355 | 5,917,513 | 1,044,000 | 4,873,513 | 3 | 72.96 |
| 4 | 53 | 66,797 | 4,873,513 | 2,428,579 | 7,302,092 | 219,063 | 7,521,155 | 1,091,000 | 6,430,155 | 4 | 97.86 |
| 5 | 54 | 65,706 | 6,430,155 | 2,388,912 | 8,819,067 | 264,572 | 9,083,639 | 1,143,000 | 7,940,639 | 5 | 122.99 |
| 11 | 60 | 57,917 | 14,519,226 | 2,105,723 | 16,624,949 | 498,748 | 17,123,697 | 1,546,000 | 15,577,697 | 11 | 276.34 |
| 21 | 70 | 38,569 | 19,208,719 | 1,402,276 | 20,610,995 | 618,330 | 21,229,325 | 2,391,000 | 18,838,325 | 21 | 520.71 |
| 31 | 80 | 14,474 | 10,212,932 | 526,240 | 10,739,172 | 322,174 | 11,061,347 | 2,091,000 | 8,970,347 | 31 | 724.41 |
| 41 | 90 | 847 | 742,638 | 30,795 | 773,433 | 23,203 | 796,636 | 385,000 | 411,636 | 41 | 890.99 |
| 46 | 95 | 3 | 2,726 | 109 | 2,835 | 8.50 | 2,920 | 3,000 | ..... | 46 | ..... |

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FORM S-124

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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### V

**41. What fundamental conditions are necessary to enable a company to meet its contractual obligations?**

*The maintenance of a sufficient reserve and its constant accumulation at a specific rate of interest.*

**42. What is the first consideration with a company in determining the rate of interest on which its calculations shall be made?**

*Safety.*

**43. What makes it necessary for a company to fix its operating rate at a lower figure than its current rate of interest earnings?**

*Life insurance contracts involve liabilities many of which will not mature until the far-distant future when interest rates may be much lower than at present.*

**44. Why is the condition referred to in the preceding question no disadvantage to present policyholders?**

*Because the difference between the actual and assumed earnings of a company is returned to policyholders in the form of dividends.*

**45. Why is a company's ability to meet its obligations in no wise impaired by lapses?**

*Because a retiring member will have paid his full share of mortality cost and expense of management*



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*and on his retirement the company is relieved of all liability on his account.*

46. **What would be the result of a company ceasing to take new risks?**

*Its reserves would enable it to meet each claim at maturity and gradually wind up its affairs without indebtedness.*

47. **What is the "net value" of a company's outstanding contracts?**

*The difference between the present worth of the future net premiums to be collected from the insured and the present worth of the benefits guaranteed by the outstanding policies.*

48. **The present value of a company's outstanding policy obligations is $17,000,000; the present value of net premiums to be collected according to contract is $12,000,000. What does the difference between these two sums represent?**

*The reserves in hand, accumulated from premium receipts in excess of mortality expenditures in previous years.*

49. **Why is it necessary for a company to maintain a contingency reserve or general surplus?**

*For the purpose of meeting contingencies of various kinds which can not be foreseen.*

50. **Why is it unnecessary that the general surplus should increase in the same ratio as the assets?**

*Because in any well-managed company liability to adverse contingencies will decrease with growth and age.*

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## VI

# Gross Premium, Loading, Surplus and Dividends.

BY FORBES LINDSAY

Net premiums are the mathematical equivalents of the insurance to which they apply. They are, theoretically, the exact cost of the insurance.

The **Gross Premium** is composed of the net premium and a "loading" or margin to provide for expenses and various contingencies. The contemplated contingencies are mainly mortality in excess of the "expected" and unfavorable investments. In a well-managed company neither of these conditions is likely to obtain extensively or otherwise than exceptionally. We may be allowed, therefore, to look upon the loading as a fund available for the general expenses of management and such incidental expenses as occur with more or less regularity in the ordinary course of operation. As there is practically no possibility of unexpected drafts upon the fund, the loading can be depended upon to completely cover the purpose for which it is designed.

Except in the case of companies newly entering into business, there need be no difficulty about meeting expenses, but no problem of life insurance is more difficult than that of making an equitable distribution of expenses among the various classes of policies. Indeed, it is a matter of such complexity that an approximation to precisely fair adjustment is the utmost that any actuary may hope to accomplish.

William D. Whiting (**"Transactions of the Acturial Society of America," Vol. 5**) makes the following division of an established company's expenses:

1. **New Business:** consisting of examination fees, agent's first year commissions, and advertising, printing, salaries, etc., incurred in getting new business; say, 80 per cent of first year's premiums.

2. **Collections:** consisting of agent's renewal com-

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missions, collection fees, exchange, taxes on premiums, etc.; say, 10 per cent on renewal premiums.

3. **Settlement**: consisting of the expense of investigating and resisting death claims; say 1½ per cent of face of death claims.

4. **Investments**: cost of making, handling and protecting same, bad debts, losses over gains, taxes and repairs on assets; say, one half of 1 per cent per annum.

5. **General**: all other expenses, particularly those of general supervision, actuarial and clerical; say $1 per $1,000 of insurance annually.

The estimated expense in the third division appears to be too high. In these days of generally incontestable policies after the first year, proofs of death are practically all that are necessary to establish a claim. The amount of life insurance contested annually is a negligible quantity. In fact, for every $1,000 paid in policy claims less than $1 is contested.

Expenses incident to the investment of assets are usually charged to the investment account and, as has already been stated, profits almost invariably exceed losses in this department of the business.

Examination of the foregoing classification shows that every expense is dependent upon some other factor of the business. One is constant; another incidental. This varies with the age of the insured, that with the form of the policy. These variances give rise to a number of questions which are extremely difficult of satisfactory settlement. For instance: To what extent, if any, should existent policies be assessed to meet the expense of advertising for new business? Should a term policy be charged with any of the expenses incident to investing the reserves? What distinctions shall be observed between paid-up policies and premium-paying policies in the distribution of expenses? Logical conclusions on these and numerous similar points are not always decisive because it sometimes happens that a method which recommends itself on the ground of equity is not feasible in practice.

Several systems are employed of loading the net premium to form the gross or office premium, and of distributing the various expenses among different classes of policies. All these methods are devised with a view to securing the utmost possible degree of equity.



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It will readily be understood that the expense of putting a policy upon the company's books is very much greater than the annual expense of carrying it thereafter. The initial expense includes commission, cost of medical examination and inspection, as well as the policy's share of the general expenses for the year of entry. In the aggregate these will equal a large proportion of the premium and may even exceed it. The loading will cover only a fraction of these charges and the net premium may not be applied to the purpose. As we have seen, in order to preserve the company's present and future solvency, the net premium must be used to discharge the policy's share of the current year's mortality claims and the balance carried to the reserve held to meet future liabilities.

There is really no way of avoiding this difficulty for it is but logical that the first year's expense when the business is placed on the books should be higher than the subsequent years' expenses. The fact that it is necessary to take money from the general surplus to pay this excess is but a part of the business operation, although it of necessity holds down the surplus which may be payable to the policyholder. A method of valuation is being used by some companies which produces in the first year a greater loading than in subsequent years, thus allowing for a greater expenditure in the first year. This valuation basis is known as the "Preliminary Term Plan." The arrangement is that the first year's insurance is theoretically a One Year Term expiring at the end of such period and being renewed as a regular life or endowment contract, as the case may be. The net premium for this One Year Term insurance is, of course, small and since the regular premium for the life or endowment policy has been charged, the loading is large. Furthermore, the One Year Term requires no reserve at the end of the first year, so that all of the gross premium except that portion required for mortality is available for expense. The effect on subsequent years is a reduced loading and a necessarily more rapid increase in the reserve. It will be noted that this method of Preliminary Term valuation has the very decided merit of requiring entrants who may lapse at the end of the first year to meet practically the entire expense of securing such busi-



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ness and so avoids the necessity of taking money from the fund created by the older policies in force.

In connection with this plan, it will be interesting to note what some of the well-known writers have to say.

Whiting says, referring to his subdivision of expenses which we have quoted:

> "The first item—for new business—should be met during the first year by each class of new entrants for themselves, so as to avoid a loss to persistent members being occasioned by the lapsing or death of one in arrears. The old members have built up the company at considerable cost to themselves, and own it. It is unjust that new members should be allowed to participate in the benefits of an established plant without at least paying their own cost of entrance. It would be more proper, indeed they should be charged with a bonus for the privilege of entering, to go to the old members in reimbursement of their early excess of expenses in establishing the institution. Old members should not need the new under a proper arrangement for future expenses; and any scheme which is not mathematically self-sustaining until the last risk is disposed of, and requires 'new blood' to support it, is insolvent by confession."

On the same highly important point D. H. Wells expresses himself in the following terms (**"Transactions of the Actuarial Society of America"**):

> "Whatever may be the cost of bringing insurance to the attention of the public, or the value of the new insurance placed, its value is to those insuring or their beneficiaries, not to those previously insured. It is true that some slight advantage may accrue to the existing membership from the broadening of the field for the operation of the law of average; and, in theory, some slight decrease in the expense rate might be possible later from the increase in volume of business. But certainly any such incidental advantage to the existing membership is more than offset by the advantage to the incoming member. He cannot in fairness ask that the special expense involved in bringing the benefits of the company to him should be shared by the existing mem-



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bership on the plea that his incoming broadens the field, when the existing membership constitute the field, to which he only adds his mite; when the benefits to him from the existence of such a membership are a hundred thousand times any benefits he can confer on them. It is certainly sufficient that he be admitted to the common advantages of a more stable experience and a decreased expense ratio, if such result, without requiring that others be taxed to pay the cost of giving him these advantages. The assessing upon the old business of the expense of procuring new business cannot then be justified either upon the ground that the expense is due to or is for the benefit of the old business."

Ordinarily life insurance policies require the payment of premiums yearly throughout the lifetime of the insured or over a definite period. We have said that the company makes its calculations on the assumption that all premiums will be received at the beginning of the policy year. In practice, however, the insured is granted the alternative of making his payments semi-annually or quarterly. A considerable addition is made to the yearly charge in order to provide for this privilege. Two semi-annual premiums are larger than the annual premium, and four quarterly premiums still larger than two semi-annual. The increase is made necessary by the requirement of earning a full year's interest on the premium and by the extra expense of collection involved in more than one payment. In case of the insured's death any unpaid portion of the year's premium is deducted from the amount of his claim.

## SURPLUS

Practically the only sources of income enjoyed by a life insurance company are premium receipts and interest derived from invested assets. Practically the only outlays of a life insurance company are those connected with the payment of its policy claims, the investment of its funds and the expense of management. A life insurance company is not permitted to engage in any commercial or financial ventures outside of the immediate scope of its business of insuring lives and granting annuities.



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Our examination of the Net Premium has disclosed the fact that the operations of a life insurance company do not contemplate profit in the sense which that word has in manufacturing or mercantile parlance. The verification tables have demonstrated that if the company's mortality experience tallied exactly with the tabular indications, if it earned neither more nor less than the calculated rates of interest, and if the securities representing its reserves neither depreciated nor appreciated, it would pay each claim as it fell due and when the last had been discharged would have an empty treasury. In order to make this hypothesis complete we must assume that the company had found its aggregate premium loadings just sufficient to meet the ordinary expenses and incidental demands of its business. The premiums charged are precisely such as would enable the company to fulfil its contracts under the above conditions.

In actual experience, however, every sound company makes considerable gains or savings in all the branches of its operation. The chief gains are secured in the matters of mortality and interest. Almost invariably the actual rate of the former is lower and that of the latter higher than those assumed in the calculations upon which the premiums are based. Additional gains are derived from economy of management, appreciation in securities and surrendered policies.

Summarized, the premium income and gains of 104 companies in 1914 were as follows:

| | | Per Cent. |
|---|---|---|
| Total premium income | $493,024,934 | |
| Gain from Loading | 9,836,206 | 1.99 |
| Gain from Interest | 63,300,459 | 12.84 |
| Gain from Mortality | 48,347,510 | 9.81 |
| Total Gain | $121,484,175 | 24.64 |

It will be noticed that slightly more than half the aggregate gains were derived from interest and a very small proportion from the loading. Among 80 per cent of the companies there was a loss from loading, but in the great majority of instances the gains from mortality and interest were sufficient to leave a substantial margin after deducting the loss from loading. As might be ex-



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pected, the smaller and younger companies have the advantage in mortality savings and, to a less-marked extent, in interest earnings, but in the total gain exhibit do not show as well as the larger and older companies by reason of much larger ratio of expenses.

## DIVIDENDS

Except for a small proportion which may be carried to the general surplus, these gains or savings are returned to the policyholders in the form of what is called "dividends." This, like a number of other words in Life Insurance terminology, is liable to convey a faulty idea. The dividend paid to a policyholder differs in character from one paid to a stockholder of a commercial corporation. The latter is distinctly a profit. The former is in the main a return of a not used and not needed portion of a premium. The element of profit does enter it, however, to the extent that it is affected by excess interest earnings and increase of security values.

Possibly the distinction between a dividend under an insurance policy and one derived from stock owned in a corporation may be made clear by an illustration: The stockholders of the corporation give the president $100,000 with which to conduct the business for a year. At the end of that time he reports as follows: "I could only use $90,000, and on that made a profit of $20,000 which is available as a dividend. I return to you the remaining $10,000 with accrued interest." In this case the $20,000 would be a true commercial dividend, and the $10,000 might be likened to the dividend payable under a Life Insurance policy.

The system generally followed, and that required by the laws of Massaschusetts and some other states, in apportioning to policies their respective shares of the divisible surplus is called the "contribution plan." It is simple and as nearly equitable as possible. In effect it secures to each policy the dividend which has been saved from its particular premium. If the mortality cost of insurance for the current year is less than the amount charged for the purpose in the premium, the policy is credited with the difference; if the general interest rate for the year is in excess of the operating rate, the policyholder is credited with the amount of such excess as the



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reserve held against his policy represents; if the actual expenses of the company are less than the aggregate loading, a share of the saving is credited to the policy proportionate to the size of its premium loading. To illustrate: let us assume two policies, each of $1,000, the attained age of the insured being the same. One policy has a reserve to its credit of $400; the other, a reserve of $200. The former will receive twice as much as the latter in the distribution of surplus derived from interest. On one policy the net amount at risk is $600; on the other $800. Therefore, the latter would receive one-third more than the former in the apportionment of surplus arising from mortality savings. From the total of these credits a certain amount is carried to the general surplus and the balance is the dividend applicable to the policy.

Formerly a great many policy contracts stipulated that dividend distributions should be made only at the end of five, ten, fifteen and twenty-year periods. The prior death of the policyholder entailed forfeiture. This arrangement had the objection of introducing the gambling element into the transaction and led to the accumulation of large surplus funds, with the consequent encouragement of extravagant operation. A New York law in 1906 prohibited all such contracts and required that all dividends should be apportioned or paid yearly. It is now the general practice of companies to make annual distributions of surplus.

Dividends are made available at the beginning of the policy year and commence with the policyholder's second or third annual payment, the practice of companies differing in this respect. Dividends may be used as cash in reduction of the premium due, left with the company to accumulate at interest, or applied to the purchase of paid-up insurance.

Another method of disposing of dividends which is constantly growing in favor is to allow them to accelerate the accumulation of the policy reserve with a view to curtailing the premiums or creating an endowment. In this manner the dividends on a whole life policy may be left with the company until the reserve, together with the dividend accretions, equals the single net premium at the attained age of the insured, when premiums will cease. Or, the premiums may be continued thereafter



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and the dividends allowed to accumulate further until they, together with the reserve, equal the face of the policy, when it will be paid as an endowment. Similarly, the reserve on a limited payment life policy, reinforced by accumulated dividends, may amount to the single net premium in several years less time than the contract period of payments, in which case the policy will become paid-up.

## DISPOSITION OF THE PREMIUM

By way of illustrating the principles which have been set forth in this and the preceding chapter, let us assume a policy of $1,000 on the Whole Life, Participating plan, taken out at age 33, and trace the disposition of the premiums paid by the policyholder.

The annual premium of this policy is $26.35, payable for life. The expense element is $5.27, leaving an effective premium of $21.08. This effective premium, it will be noted, is still somewhat greater than the net annual premium of $19.87, shown in the following policy statement as the precise amount required. The difference is accounted for by the fact that the entire loading has not been used for expenses. The effective premium is strictly reserved for the purpose of paying the policy's share of the mortality losses in the ensuing year and creating a sinking fund to meet the increased cost of mortality incident to advance in age, and so permit of a uniform premium charge throughout the life of the contract. At age 33 the tabular death rate is 8.72 per thousand and the mortality charge on $1,000 of insurance is necessarily $8.72. At each succeeding year of age the cost is naturally higher. The constant annual premium of $21.08 is equivalent to graduated mortality payments beginning with $8.72 and increasing yearly up to age 95.

Each policy account is kept separately and in detail. In the case which we are considering, the first year's statement would reveal something like the following results:



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| | | |
|---|---|---|
| Premium | $26.35 | |
| Expenses | 5.27 | |
| Effective Premium | 21.08 | |
| Interest for one year, assuming rate of 5% earned | 1.05 | |
| Accumulating fund at end of year | | $22.13 |
| Reserve at end of year | 11.85 | |
| Mortality cost assuming saving of 30% | 6.03 | |
| Total amount required to cover insurance liabilities for the year | | $17.88 |
| Balance | | $4.25 |

It should be explained that the Expense element of the premium is extracted from it at the beginning of the year. The amount in question is used to meet current expense, and interest is not calculated on it. This item is necessarily much larger in the earlier years than later, but, for the sake of simplicity in illustration, an average rate has been assumed and applied to both exhibits. Usually it is found that the actual mortality experience does not call for the full amount charged for the purpose and a balance is carried to the Surplus Fund.

The next year's account will be similar, except for the addition of the previous year's Reserve, making in all $11.85 and $22.40, or $34.25 at the beginning of the year, to be placed at interest.

The amount at risk, or the company's stake in the transaction, decreases in proportion to the growth of the Reserve, although the Mortality increases at the same time.

Let us take the twentieth year. The death rate will be 15 per thousand and consequently the mortality cost will be $15 for $1,000 of insurance. But each Reserve fund has accumulated $306, so that the amount at risk is not $1,000, but the difference between these sums, or $694. The individual contribution necessary to meet the death losses is not $15, but $10.40, for if 15 die, involving claims of $15,000 and each has a reserve of $306, aggregating $4,590, the net loss is only $10,410. This effect of the policyholder's contribution to the reserve in reducing the



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company's liability has led to the Reserve Fund being spoken of as the "Self-Insurance Fund."

In the twentieth year the policy account would be somewhat as follows:

| | | |
|---|---|---|
| Premium | $26.35 | |
| Expense | 5.27 | |
| Effective Premium | 21.08 | |
| Reserve from previous year | 287.90 | |
| Interest on $308.98 at 5% | 15.45 | |
| | | $324.43 |
| Mortality Cost assuming saving of 30% | 7.48 | |
| Reserve carried forward | 308.98 | |
| | | 316.46 |
| Balance | | $7.97 |

Our two policy statements show that the insured paid $4.25 more than was necessary the first year and $7.97 more in the twentieth year, and there was, of course, a varying excess through the intermediate years.

If the company had realized exactly 3 per cent on its invested assets, if the death losses had exactly corresponded with the mortality table, and if the entire loading had been used yearly, the amount on hand at the end of each year would have been the aggregate reserve with accrued interest. We have seen, however, that interest earnings in excess of the calculated rate, gains from careful selection, and economy in management will create savings. The total of these savings is called the Surplus.

As the experience of the company in the matters of mortality, interest and expense is apt to vary, a portion of the earned surplus is retained to provide for contingencies. The balance is divided among the policyholders in the form of dividends.

In the case under consideration, the surplus the first year is $4.25, and at the end of the twentieth year $7.97. The company would pay dividends of about 16 per cent and 30 per cent respectively; that is to say, at the end of the first year it would credit the policy with a dividend of 16 per cent of the premium, or $4.21, which the insured might apply to the reduction of the second pre-



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mium, or employ in one of the other several ways of disposing of dividends. Under ordinary circumstances there would be a gradual increase of the dividend at a nearly uniform rate, year by year.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### VI

51. **What makes the difference between the gross and the net premiums?**

*The "loading" for expenses.*

52. **What is the heaviest item in the expense of company operation?**

*The cost of new business.*

53. **What are the chief items of expense incurred in putting a policy in force?**

*Commission, medical examination, and inspection, as well as the policy's share of the general expenses for the ensuing year.*

54. **How much of the premium is available to meet these expenses?**

*No more than the loading.*

55. **Two methods of meeting the excessive first year's expenses are practiced. Name them.**

*One is to draw upon the general surplus; the other, to write the policy on the "preliminary term plan."*

56. **Why is it necessary that semi-annual and quarterly premiums shall be more than one-half and one-fourth of the annual premiums?**

*The company must earn a full year's interest on the*



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*annual premium and the additional payments create extra expense.*

57. **State, in percentage, the aggregate gains made by 104 companies in 1914 on the premium income.**

24.64 *per cent.*

58. **What disposition is made of the gains referred to above?**

*Except for a small proportion which is transferred to general surplus, they are returned to policyholders as dividends.*

59. **State the principle of the "contribution plan" of dividend distribution.**

*It secures to each policy the dividend which has been secured by the policy's premium.*

60. **What is the accelerative plan of using dividends?**

*The application of dividends to the purpose of accelerating the reserve accumulation, with a view to curtailing premium payments or creating an endowment.*

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VII

# Surrender Values and Policy Loans

BY FORBES LINDSAY

It has been shown that the company subtracts from every premium a certain sum which is set aside and reserved to meet future claims under policies. The verification tables in a former paper indicated that every policy has to its credit a constantly increasing reserve. This is a fund which has been created from deposits of the individual policyholder. It is held in trust for him by the company, which recognizes his conditional ownership of it. The purpose of this reserve is solely to cover a risk or, in the case of an endowment, to fulfil an obligation, which the company has assumed in favor of the insured. If the policyholder should relieve the company of the risk or obligation in question the purpose of the reserve standing to the credit of his policy would be extinguished, and the fund ought rightfully to pass to the owner. This is precisely what happens in actual practice. In the event of a policyholder surrendering his contract, he receives the value of his reserve in cash or kind, except for a small deduction which will be referred to hereafter.

The grounds that justify the company in transferring the reserve on this policy to a surrendering policyholder furnish equally sound reasons for permitting him to borrow the reserve or a portion of it. Such a loan constitutes a first lien against the policy and, since the money was entirely contributed by the policyholder and is to be used only in the discharge of his policy claim, the company's security is perfect. If the policy is carried to maturity without the repayment of the loan its amount is deducted from the claim. If, on the other hand, the policyholder lapses whilst a loan stands against his policy, the amount of it is deducted from his surrender value. There is not even a chance of the company losing interest on such loans, for that is usually charged in advance or a margin allowed for its collection.

Notwithstanding the obvious logic and equities insep-

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arable from the contract between the company and the insured, policies were issued during the early period of the business which made no provision for refund to a lapsing policyholder. Some companies granted surrender values, without any approach to uniformity in the proportion of the reserve returned or the manner of applying it. All such accommodations were, however, in the form of voluntary concessions. The first recognition of the **right** of the insured to a surrender value took practical shape in 1859, when the New York Life Insurance Company began to issue limited payment policies embracing provisions for paid-up insurance in the event of lapse after two years. In the same year a measure was introduced in the Massachusetts Legislature and culminated in the **"Non-forfeiture Law"** of 1861. This Act, which was the first of its kind, made it compulsory upon the companies of that state to allow the reserve, less a surrender charge, in the purchase of extended insurance for the original amount of the policy, upon its surrender. Similar laws were shortly afterwards passed by other states, and at the present time non-forfeiture provisions are universal features of the policy contract.

Competition and excessive desire for new business have led some companies to overstep the bounds of prudence and to disregard the interests of their policyholders by granting surrender values on a much more liberal scale than the legal requirements. Such is the case with companies that allow surrender values in the second year when the policy account cannot be clear of the entrance expenses properly chargeable to it. From what has been said on the subject in the immediately preceding paper it will be understood that until a policy has been in force three or four years, at least, it is a source of expense rather than profit to the company unless it has been written with the first year as Term insurance. In case the first-year reserve has been put up on a policy and its holder lapses in the second year, he leaves the company whilst in debt to the remaining members, and it is clearly unjust to place a bonus on his delinquency.

The usual legal requirement is that the company shall make the reserve available to a surrendering policyholder, less a surrender charge of not more than 2½ per cent of the face value of the policy.



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The surrender charge is justified on the grond that during the earlier years of the policy it will not generally have paid off the expenses incurred in securing it. To put the matter otherwise, the level premium system of computation assumes that at the end of each year the company will have on hand the reserve of each contract corresponding to the standard of valuation. The reserve is theoretically derived from the premiums paid on account of the particular policy. But, as we have seen in a previous paper, the cost of placing the business on the books may be equal to three-fourths, or more, of the initial premiums.

Consequently, the policy must start in arrears, so to speak, to its own or to the general account. This condition of indebtedness is gradually reduced, and the surrender charge usually decreases correspondingly and ultimately expires, when 100 per cent of the reserve is available as a surrender value.

The tendency of the legislation on the subject has been to favor the individual policyholder at the expense of the body to which he belongs. Whilst the law defines the minimum surrender value which may be allowed to a retiring member, it erects no boundary in the other direction and the companies, under pressure of competition, are in many instances granting the maximum possible surrender values.

In general, the policy provides for three methods of settlement. Each of these is the mathematical equivalent of each of the others based on the corresponding reserve value. The policyholder has the option of either settlement and, theoretically, his choice is a matter of indifference to the company. It is probable that a company would be willing to allow somewhat larger values in kind than in cash, but statutory provision compels the mathematical equivalence. The several options are as follows:

1. To take in cash the reserve value allowed under the policy.
2. To take a paid-up policy of such amount as may be purchased by the reserve value as a single net premium.
3. To take term insurance in equal amount to the original policy for such period as may be purchased by the reserve value applied as a single net premium.



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## Cash Surrender Value

This mode of settlement entails complete severance from the company. It would appear to be especially unreasonable to give the entire reserve to a policyholder under such circumstances, except, perhaps, in the case of a policy ten or more years old.

Foreign companies are much more conservative in this matter. The practice in Great Britain is to allow cash values ranging from 25 to 50 per cent of the amount of premiums paid on the policy.

It must be assumed that the retiring policyholder is an average risk, in which case his withdrawal works a distinct loss to the membership. It is often declared that lapses exercise a strongly adverse effect on a company's mortality rate. It is questionable whether the facts support this contention to any considerable extent, although the tendency to persist is naturally greater on the part of impaired risks than on the part of sound ones.

Another reason against permitting a policyholder to retire from the company at will and abstract the entire reserve value of his policy from its funds is found in the fact that this option is most extensively exercised in periods of business depression when an unusually large demand for cash is apt to necessitate the sale of securities at a disadvantage.

## Paid-up Insurance Surrender Value

If this option be chosen, the surrendering policyholder receives a policy for such an amount as the cash available under the first option will purchase as a single net premium. No further premiums are required upon the policy in question, which is payable at the death of the insured, or, in the case of an endowment, at the end of the original endowment period, unless death occurs previously. When a surrender charge is imposed the amount of the paid-up policy will necessarily be reduced proportionally.

Some companies allow the policyholder to convert the paid-up policy into its equivalent cash at any time, in which case its value is constantly increasing with the enlargement of the reserve against it.



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The question arises as to whether such paid-up policy should be allowed to participate in dividends, even though the original policy had been participating and a charge was made on its surrender. The commuted policy will play a part in the creation of dividends, but not so effectively as the original would have done had the premium payments been maintained. Any dividends that might be withheld from surrendering members would necessarily accrue to the benefit of their associates who kept their insurance in force, and it would appear to be good policy on the part of the company to encourage persistence in this manner.

## Extended Insurance Surrender Value

Under the third option the original amount of insurance is carried without the payment of premiums for a definite period on the term plan. In the event of the insured dying during the term, the face value of the original policy is paid in full. On the other hand, if the insured should outlive the term, the insurance expires.

It would seem that this option affords as great opportunity as the first for adverse selection against the company. Greatly impaired lives might be expected to discontinue the payment of premiums and secure insurance at the minimum cost until death. No doubt this is done in a negligible number of instances, but not to such an extent as to seriously affect the experience of any company. When insurance is issued upon doubtful risks it is customary to guard against such a contingency by eliminating the extended insurance privilege from the contract. The element of unfavorable selection is, however, probably present to a sufficient degree to warant the exclusion of extended insurance from participation in dividends, even when it is extended to the paid-up insurance surrender value.

Whenever a lapsing policyholder is entitled to a surrender value he is appropriately credited on the company's books even though he should make no demand. In such a case the third option is the one which the company usually adopts on his behalf. It happens not infrequently that the company cannot get into communication with a lapsing policyholder, but acts as his trustee, nevertheless, and numerous claims have been paid under



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such circumstances to beneficiaries who were entirely unaware of the protection.

## Policy Loans

Provisions for loans against the policy is now a feature of practically all legal reserve companies and a necessary accompaniment of cash surrender values, for the company would be at a disadvantage if the policyholder could secure cash only by cancelling his contract. The primary purpose of the "loan values" is to pay premiums and for that purpose every company will advance money against the policy reserve, even though the contract may contain restrictions against more extensive loans.

In recent years the tendency among policyholders to avail themselves of the loan privilege has grown to such an extent as to cause serious concern to life insurance executives. (See **Proceedings of Association of Life Insurance Presidents,** 5th and 7th years.) During the past decade policy loans have increased more than 300 per cent., whilst the insurance in force has increased less than 80 per cent. Considerably more than half such loans are not repaid, with the result that the policy is lapsed or, if carried until death, the claim under it is reduced by a lien consequent on the debt.

Without doubt a large proportion of policy loans are effected to satisfy selfish indulgence and not to meet urgent needs.

When policy loans were mainly granted for the purpose of making premium payments and meeting pressing obligations the effect was to diminish lapse. Now, however, when borrowers generally demand a large proportion, if not all, of the cash available to them, the policy loan has a detrimental effect on persistency.

Policies as generally written at present do not require the beneficiary to join the insured in making application for a policy loan. This condition has unquestionably had the effect of increasing borrowing and has had the further consequence that the first knowledge of a policy being mortgaged frequently comes to the beneficiary when the policy becomes a claim.

It may be said that during the long period when loans were in the form of voluntary concessions upon the part



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of the company and made in each case by special agreement with the policyholder, there was little or no complaint on this score and borrowing was practically confined to conditions of urgency.

The growing practice of borrowing on policies payable to dependents is yearly causing enormous reduction of the protection originally contemplated by the insured and any repressive measures which may be adopted must tend toward public welfare.

These strictures do not apply to insurance which is taken for business purposes. The collateral value is an important consideration in such cases and the entire matter assumes a different aspect when the beneficiary under the policy is a corporation, firm or business man.

The loan privilege varies with different companies both as to amount and manner of granting it. The prevailing practice is to lend a sum approximating the terminal reserve for the current year, less the interest.

With a view to self-protection and the discouragement of needless borrowing a number of leading companies have, in the past few years, raised the rate for policy loans from 5 to 6 per cent. and reserve the right to defer payment for sixty or ninety days, unless the money is required to pay premiums.

These conditions are consistent with wise and conservative management. Some states compel the inclusion of a notice clause in the contract and it is highly probable that it will become a general requirement, as it is with savings banks. It is questionable, however, whether the remedies recently introduced will do more than mitigate the evil, which is due to a fundamental defect in our policy contracts that will ultimately require radical correction.

There can be no question about the equities in the matter. The handling of insurance funds is a trust and the companies are in duty bound to do the best they can for the majority of their policyholders. The borrowers do not represent the majority and there can be no sound reason for favoring them at the expense of the remainder. This is what a company virtually does when it allows the full reserve to be borrowed at any time and at a rate of 5 per cent. or less. Applications for loans are heaviest when the money market is stringent and securities con-



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vertible only at a loss. Repayments are largest when money is easy and profitable investments difficult to find. In other words, when the prevailing rate of interest is unusually high policyholders borrow from the companies at the comparatively low rate guaranteed by the policy contract. When the general rate is low and the companies might be glad to have the money remain out, it begins to return to them.

One of the British companies embodies in its policy contract a provision that whenever the Bank of England rate of discount is as high as 7 per cent. at the time that a loan or cash surrender value is applied for, the payment may be reduced or deferred until the rate of discount declines below the point in question. Some similar precaution might be adopted with advantage by our companies, such, perhaps, as making the rate of interest on policy loans fluctuate so as to correspond with general interest rates.

If policy loans continue to expand as they have in the past fifteen years the companies will be compelled to carry a larger proportion of their assets in the form of the most liquid securities. As these are the least profitable kind of investments, the consequent effect will be a reduction in dividends.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### VII

61. **Name the first instance of a policy containing provision for surrender value.**

*The limited payment policies issued by the New York Life in 1859, which made provision for paid-up insurance in case of lapse after two years.*

62. **In what manner does a company which makes no surrender charge work an injustice upon some of its members?**

*By requiring persistent policyholders to bear more or less of the expense of entrance incurred by those who surrender in early years.*

63. **What is the usual statutory requirement regarding surrender values?**

*That, after a policy has been in force for three years, a company shall make the reserve upon it available to a policyholder, less a surrender charge of not more than 2½ per cent of the face value of the policy.*

64. **Explain the Extended Insurance option.**

*It is Term insurance equal to the amount of the original policy and for such a period as may be paid for by the cash surrender value applied as a single net premium.*

65. **What method is commonly adopted to prevent doubtful risks from surrendering for Extended Insurance?**



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*The Extended Insurance option is eliminated from the policy.*

66. **What action does a company usually take when it is ignorant of the whereabouts of a lapsing policyholder who is entitled to a surrender value?**

*The Extended Insurance option is automatically put into effect for his benefit.*

67. **What proportion of policy loans is repaid?**

*Considerably less than one-half.*

68. **In what respect are policy loans easier to effect now than they were formerly?**

*The latter-day contracts, generally granting revocation of beneficiary, do not require the beneficiary to join with the insured in applying for a loan, as was formerly the case.*

69. **To what class of insurance do the objections against borrowing not apply?**

*To Business Insurance, in which the collateral value of the policy is one of the elements of the protection afforded.*

70. **What effect upon the assets of companies may be expected to follow increase in policy loans?**

*A larger proportion of the assets will need to be held in liquid securities, which are the least profitable form of investments.*

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VIII

# Standard Forms of Policies and Special Forms of Policies

BY FORBES LINDSAY

The earliest form of Life Insurance contract was limited to the term of one year. In 1721 the London Assurance Corporation issued the first whole life policy which became the standard form for level premium companies, although they issued short term insurance on occasion. It was some time before Limited Payment Life and Endowment policies were offered and many years before they attained to anything like the popularity which they enjoy at present. The process of evolution would seem to have reached its culmination with the latter-day contract which provides indemnity for sickness, accident, permanent total disability, and death.

## Fundamental Forms

Notwithstanding the limitless variety of policies there are in fact but two fundamental forms of Life Insurance —Term Insurance and Pure Endowment. The combination of these two in varying degrees produces the several standard forms of policies. The Whole Life contract is virtually Term Insurance for the entire life expectancy, and the insured is required to pay premiums as long as he lives. The Limited Payment Life policy is identical with the Whole Life, except that the insured commutes the payments that he would be called upon to make under a Whole Life policy, undertaking instead to complete the purchase of the insurance in a definite number of years. An Endowment policy is a direct combination of Term Insurance and Pure Endowment, and as a result provides for a certain payment by the company, either at the death of the insured or at the end of a specified period, if the insured is then living.

Numerous modifications of these standard forms are secured by the addition to them of annuities.

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## PARTICIPATING AND NON-PARTICIPATING POLICIES

According to the commonly current definition, "Participating" insurance is that which shares in the dividends or "profits" of a company; "Non-participating insurance is that which has no interest in them. This method of statement, which is approximately correct, is apt to induce a faulty idea of the facts. The actual condition may be more clearly explained by the statement that Participating insurance is that of which the ultimate cost is determined by the business experience of the company; Non-participating insurance is that of which the net cost is arbitrarily fixed beforehand. The Participating premium is admittedly more than will in any probability be necessary to carry the insurance. The excess is charged for the sake of safety. The company returns this excess after the year's transactions (involving death losses, expenses and interest earnings) have revealed the exact amount of it. In the case of Non-participating insurance, the company anticipates the rebate, making its calculation on its own experience and that of other companies in the matter of mortality, interest and expense, which are practically the only factors in the creation of dividends.

Non-participating insurance is sold by companies having capital stock. This resource the better relieves them of the necessity of making the precautionary overcharge embraced in the Participating premium. The stockholders assume the risk of the insurance costing more than the premium which their actuary has estimated for it, and, on the other hand, enjoy whatever profit may be derived from its costing less.

The payments which, in the business of Life Insurance, go by the name of "dividends," are neither dividends nor profits in the commercial sense, but simply refunds derived from economies and good management. The mutual company waits until it has effected the results before giving its policyholders the benefits of them, whilst the stock company fixes its net rate at the outset in anticipation of them. The cost of insurance is dependent upon the same factors in each case. Non-participating is Participating in so far as its premiums are made possible only by favorable experiences in the matters of mortality savings, interest earnings, etc., of the company issuing it just as in the case of a mutual com-



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pany. It is, in fact, the only kind of **guaranteed dividend** insurance possible.

In making their rates, stock companies are impelled, by competition among themselves and with mutual companies, to put the figures as low as they may without serious danger of loss. Whilst Participating insurance is sold at considerably higher rates, the policyholder pays for it practically what it costs the company to carry it. In the long run the net cost of the insurance, and the net **average** premium under a Participating policy in a well-managed company will be lower than the flat premium for a Non-participating policy of a corresponding form at the same age. On the other hand, the Non-participating policy will afford protection at a lower cost during the earlier years. Each of these plans has its special advantage over the other. The comparative value of either is necessarily dependent upon the conditions and requirements of the insured.

We will now proceed to examine the various standard forms of insurance in detail.

## TERM INSURANCE

Most Life Insurance contracts combine the two elements of protection and investment. It is for the applicant to decide which of these is of the greater value to him. It is possible, as we have seen, to secure either of these features without the other. The applicant may take a Pure Endowment, which has no insurance element; or he may obtain a contract affording protection solely. An insurance company will undertake to pay a certain sum in the event of his death during a period of five, ten, fifteen or twenty years, but to return nothing to him under any other circumstances. This is pure protection and is called Term Insurance. It is similar to fire insurance—a specific indemnity to cover a specific risk, without any contingent benefit.

Ordinarily the Term policy provides for renewal, or extension over another period on the same conditions, except for an increased premium to correspond with the advanced age. The contract also usually includes the privilege of converting the Term policy at any time to some permanent form of insurance. The exercise of either of these options must involve a loss to the insured



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on account of the higher cost of insurance at the later age, unless a change is made to a policy of the same date as the original Term contract, and this generally necessitates the outlay of a considerable amount of money to cover the deficiency in back premiums.

Term insurance affords the greatest amount of protection temporarily for a given premium outlay. This is the sole advantage to be urged in its favor. It is the lowest in cost and least in serviceable qualities. Beyond a few years, say seven, it is the most expensive form of insurance, for the reason that the gross payments under it represent net cost, whereas, under a Life or Endowment policy the surrender value deducted from the aggregate premiums will reduce the net outlay to less than under the Term policy.

## Whole Life Insurance

The essential feature of the Whole Life, or, as it is sometimes called, the Ordinary Life policy, is that it affords to the insured the greatest amount of permanent protection for his outlay. At age 30 a man may secure to his beneficiary practically any sum by paying about 2 per cent. of it throughout his lifetime. If he should attempt to accomplish the same object by saving a similar sum annually, it would require the compound operation of ordinary bank interest during longer than thirty years with little more than an even chance of his living long enough.

The chief objection advanced against Whole Life insurance is the apparent necessity of continuing the payments throughout life. This may be obviated by allowing the dividends to accumulate with the company. Under this condition an Ordinary Life policy, issued at age 30, should be paid up at about age 65, and, in the event of premium payments being continued thereafter, should mature as an Endowment at about age 80.

## Limited Payment Life Insurance

This is a form under which the annual premiums are restricted to a certain number, after which the policy is paid-up for its face value. The contractual obligation of the company is the same as in the case of the Whole Life policy—to pay the claim at death.



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The Limited Payment Life contract has the advantage of not requiring premium payments in advanced age, of enabling the maximum cost of the insurance to be ascertained, and of having larger reserve values in proportion to the payments than the latter, but involves greater saving. These distinctions apply to Endowment insurance in more marked degree.

Another beneficial feature of the Limited Payment policy, on the Participating plan, is the continuance of dividends after the policy has become paid-up. The chief disadvantage attaching to the corresponding Non-participating forms is the absence of this feature.

If the greatest amount of protection for the outlay is desired, Ordinary Life should be taken. If the utmost extent of investment is the object, Endowment will secure it. A Limited Payment Life policy is the medium between these extremes and, for that reason, the Twenty Payment Life is the most popular of all policy forms.

### Endowment Insurance

The fundamental feature of this policy is its guarantee of a certain amount of cash at the end of the contract period. To illustrate: Whereas, a Twenty Payment Life policy will assure to the holder paid-up insurance for its face value at the end of twenty years, a Twenty-Year Endowment will pay to him the amount in cash at the same time. Both policies will become payable in the event of his prior death.

In the Endowment policy the investment elements preponderate over the element of protection to such a degree that the latter becomes a negligible quantity toward the close of the term when the policyholder's payments will have aggregated 70 per cent. or more of the face of the policy.

## Special Forms of Policies

There is no commodity the price of which is so stable and so precisely related to cost as is the case with level premium life insurance. The actuaries of all companies make their calculations on certain formulas which are practically alike, using certain basic tables which vary but little. There may be slight variations in the mortality



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charge and the expense item. The premiums will be a little lower and the values correspondingly smaller in a company on a 3½ per cent. reserve basis than in one on a 3 per cent. But, notwithstanding the influence of these factors, the utmost differences between the premiums of Legal Reserve companies for the same classes of policies are not considerable.

From the foregoing it may be justly inferred that there are no bargains in Life Insurance and no such thing as a "cheap" policy. Every contract provides one hundred cents' worth of insurance value for each dollar of premium. It must not be overlooked, however, that the insurance furnished by a policy is not limited to the main provision of it for death indemnity. The subsidiary clauses of the contract extend the protection in certain directions and restrict it in others.

Every privilege has a monetary value to the company and every restriction saves it money. For example: The presence of a Disability clause entails payment of claims which could not be incurred in policies lacking it; the declaration of a dividend in the second year involves an outlay that would be entirely avoided in case of lapse in that year of a policy on which no dividend was due until the next. Conditions relating to suicide, travel, military service—in short, all the conditions of an insurance contract have their effect upon the treasury of the company issuing it.

Following this explanation, it will readily be understood that no two policies of different companies are precisely alike in the protection provided. They may be alike in form and have the same premium, with similar surrender values, but one will give something that the other withholds, and withholds something that the other gives.

## "Fancy" Forms of Policies

Whilst, as we have seen, there are but two fundamental forms of Life Insurance, innumerable varieties of policies are formed by their combination. There are policies under novel names in fantastic forms, but in their essentials all are alike—all are combinations of protection and investment in differing proportions. In the construction of Life Insurance premiums the mortality and expense items are practically stable. There are only two



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other factors to depend upon for variations of standard forms—reserve and compound interest—but with the aid of these it is possible to construct contracts that appear to afford exceptionally liberal benefits.

The Return Premium policy under which the insured is guaranteed the payment at death of the face of the policy plus the sum of the premiums paid has the aspect of an extraordinary proposition, but is based on the simplest insurance principles. Let us assume the case of a $10,000 policy with a regular premium of $372. If the company can calculate the cost of carrying the risk for $10,000 it will have no difficulty in ascertaining the cost of carrying it for $10,372 the first year, $10,744 the second year and so on. If the premiums are to be returned the rate will be adjusted to correspond with the increased protection.

A policy is sometimes issued which undertakes to pay its face value in the event of the insured dying within twenty years, but should he outlive that period to give him a paid-up "bond" for the same amount, on which six per cent. will be earned during the remainder of life. This is effected by simply adding to an ordinary Twenty Payment Life contract a deferred annuity equal to six per cent. of the face of the policy and making the appropriate charge.

The "coupon" policy which yields a certain sum annually is contrived by loading the reserve to provide for the payment of a series of pure endowments.

It should be added that, whilst these eccentric forms of contract were at one time comparatively common, they are now issued only by new companies, the successful and well-established companies generally confining themselves to the standard forms of policies which have already been described and such special forms as will presently be noticed.

## Income Insurance

Since its introduction about twenty-five years ago, the Income policy in its various forms has steadily grown in popularity. It is the most perfect protection possible, and on that ground appeals to all classes of men having dependents. It is written upon the Life and Endowment plans and differs from the standard policies solely in the method of paying the claim.



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The essential feature of this form of contract is that it guarantees to the beneficiary—or the insured, in case of an Endowment—a definite income for life, or a stipulated number of years. The contract creates an absolute trust and the beneficiary is debarred from commuting the income or disposing of it in any manner other than that provided by the policy.

## COMBINATION INSURANCE

A few companies which are chartered to do business in Accident and Sickness Insurance as well as Life Insurance issue contracts which, in addition to the ordinary features of Life Insurance, afford indemnity for disabling accident or sickness. This arrangement has several advantages, not the least of them being a lower cost than if the various forms of protection should be secured under separate policies. In the past few years there has been a marked appreciation of Combination Insurance, if not an actual demand for it, on the part of the public.

## JOINT POLICIES

Policies are issued covering two or more lives, but paying a claim only upon the first death to occur. The protection is not as great as would be enjoyed under individual policies and the cost is proportionally less. This form of insurance is commonly issued on the lives of husband and wife, but more frequently upon partners or others associated in business.

## BUSINESS INSURANCE

The application of Life Insurance to various needs of business has in late years become prevalent and gives promise of much greater extension. The various purposes which are served by Life Insurance in commercial affairs may be learned from the accompanying pamphlet. (**Commercial Life Insurance,** (Form 195) Forbes Lindsay.)

With the exception of a few clauses designed to meet special conditions of corporations and co-partnerships, policies of Business Insurance are the same as the regular forms.



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## GROUP INSURANCE

This the latest development in the business of Life Insurance and will not have passed out of the experimental stage for many years to come. Group insurance is written upon the employees of a corporation or municipality, without medical examination on the assumption that a favorable average mortality may be relied upon from the number of lives involved. If this conclusion is sound, it would appear to furnish a sufficient argument for the corporation to carry its own insurance.

## THE ANNUITY

An annuity is as nearly as possible the reverse of insurance. It is payable during life, and ceases at the death of the annuitant. The actuary calculates his rates for annuities upon the same basis as he does those for insurance—that is, a combination of the mortality and compound interest tables—but he looks at the risks from opposite points of view.

The mortality table used in calculating Annuities provides for greater longevity than do the tables employed to calculate death losses. This is in correspondence with the experience that annuitants are more than ordinarily long-lived.

There are several forms of Annuities, of which the commonest are as follows:

1. The Life Annuity purchased by a single sum on condition of the income commencing three, six or twelve months later and continuing for the life of the annuitant.

2. The Deferred Annuity, purchased in one or a series of payments, with the income to commence at the end of a stipulated term of years.

3. The Joint and Survivor Annuity in which two or more persons are included. This may take the form of either of the foregoing, but has the additional feature of continuance as long as either of the joint annuitants may live.

As no portion of the purchase price is refunded, the percentage of it paid by the companies in the form of income is much greater, particularly at high ages, than



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the rate of interest which can be secured on any safe form of investment.

Annuities may be taken advantageously by persons who have no dependents, nor any object in bequeathing money. A husband and wife in such a situation may derive the utmost benefit from their means by converting them into a Joint and Survivor Annuity.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

QUESTIONS AND ANSWERS

### VIII

**71. Define Participating and Non-participating insurance.**

*Participating insurance is that of which the ultimate cost is determined by the business experience of the company. Non-participating insurance is that of which the net cost is arbitrarily fixed beforehand.*

**72. Upon what factors is the calculation of Non-participating insurance based?**

*Upon the experience of the company and of other companies in the matters of mortality, interest and expense.*

**73. What is the most popular form of policy and why?**

*The Twenty Payment Life, because it is for a definite premium-paying term and affords a fair degree of investment at moderate cost.*

**74. Why is the charge for Life Insurance practically the same in all companies?**

*Because the actuaries of all companies make their calculations on certain formulas which are practically alike, using certain basic tables which vary very little.*

**75. Why should all the subsidiary clauses of a contract be taken into consideration when calculating cost?**



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*Because every privilege and every restriction represents a monetary value to the company issuing the contract.*

76. **The mortality and expense elements of policies being practically stable quantities, what other factors must be depended upon for variations of contracts?**

*Reserve and Compound Interest.*

77. **Could a company undertake to pay a policyholder six per cent annually upon the amount of his premium and how would it contrive to do so?**

*Yes. Simply by loading the reserve with a series of pure endowment equal to the amount of the annual "interest" payment.*

78. **What is the chief objection to a company writing Group Insurance?**

*It is in an experimental stage and must remain so for many years to come, until the experience of it shall have formed reliable data on which to form calculations.*

79. **Does the actuary employ the same mortality tables in calculating Life Insurance and Annuity premiums?**

*No; for the latter he uses tables allowing for greater longevity, experience having proved that annuitants are more than ordinarily long lived.*

80. **Briefly describe the Deferred Annuity.**

*It is a contract requiring one or a series of payments and providing for an annuity to commence at the end of a stipulated term of years.*

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IX

# The Policy Contract

BY FORBES LINDSAY

Whilst an insurance contract is made between two parties,—the insurer (being the company which issues the policy) and the insured (upon whose life it is written),—there is usually a third party interested in it, to-wit: the beneficiary, to whom the claim is to be paid in the event of death.

A Life Insurance contract must be supported by a legal insurable interest. The insurable interest of a man in his own life fully meets this requirement. When, however, insurance is effected by one person on the life of another, it is necessary that the former shall have a distinct interest in **the continuance of the life** of the latter and not merely a monetary interest in his death. To put it otherwise: The person who effects the insurance must be able to show direct loss as likely to occur to him from the death of the insured.

Business insurance not infrequently involves cases of questionable insurable interest. It cannot safely be taken for granted that each of two partners has an insurable interest in the life of the other, nor that a corporation has an insurable interest in the life of an officer or employe.

In their own protection, companies exercise vigilance in guarding against speculative insurance. If moral hazard is apparent or suspected, a company is at liberty to decline the application without consideration of the legal definition of insurable interest. After one or two years all questions connected with the origin of the contract are rendered inconsequential by the incontestability provision.

Whilst the insurance departments of the various states exercise supervision over the contracts issued, few restrictions are imposed upon the companies in this respect. They are practically at liberty to write any kind of policy, provided it is supported by a sufficient reserve to insure the fulfilment of its terms.

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This latitude encouraged the issuance of a great variety of contracts, some of them calculated to lead to misunderstanding, if not actual deception. The abuse in question is rarely committed now-a-days. For many years past there has been a general and constant endeavor to render the documents comprising the contract as simple as possible. Restrictions have been reduced to the minimum consistent with conservative operation, and present policies are almost invariably incontestible after one or two years. One of the important effects of this liberality is found in the fact that for every $1,000 paid in claims not more than $1.00 of insurance is contested by legal reserve companies.

The policy contract of today, with its great preponderance of advantage on the side of the insured, is representative of the principles and animus which control modern Life Insurance. They are the outgrowth of gradual reformative evolution which traces back to an early time when the companies were more concerned for profit than for equity. Contracts were then laden with conditions adverse to the assured and companies sometimes availed themselves of mere technicalities to avoid liability. Public protest, remedial legislation, keen competition and the adoption of ethical standards by executives have brought about a reversal of the old order of things. The erstwhile doctrine of **caveat emptor,** as applied to a Life Insurance contract, has long since been abandoned by the best companies. The purchaser of a latter-day policy does not need to beware lest he be deceived. All the material conditions of his agreement with the company are set forth precisely and clearly. His equities are fairly considered and definitely established. Far from endeavoring to get the better of him, the company voluntarily grants him every benefit and privilege to which he is justly entitled and gives him the advantage in questions where the respective interests of insurer and insured appear to be evenly balanced.

The early policy documents were comparatively short, but by far the greater portion of their contents consisted of restrictions and the recital of conditions under which the protection would become forfeitable. In their effort to gain popularity the companies discarded the prohibitive provisions by degrees. The same motive, augmented by compulsory legislation, led to a constant



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increase of the stipulated benefits. Ninety per cent. of the clauses of the present policy are drawn in favor of the insured. Indeed, "liberality" in this respect has been exercised to an injudicious extent and there is a tendency toward conservative reaction, prompted by the sound consideration that, in the final analysis, the whole body of policyholders compose "the company," and all matters affecting them should be regulated by regard for the welfare of the majority. If this principle is logically pursued the policies of the future will offer fewer inducements to new insurants and better returns to established policyholders.

## Interest In The Policy

The title of a policy may vest in the insured or in the beneficiary, depending upon the terms and conditions of the contract. Formerly, a personal beneficiary, having been named in a policy contract, could not be changed without the consent of the beneficiary. At the present time most policies are written with reservation to the insured of the right to revoke the beneficiary at will. This modification of general practice was brought about by popular demand, probably prompted by desire to facilitate borrowing on policies.

To quote Fouse: "If the insured under the terms of the contract has the right to change the beneficiary, then the latter has a contingent interest, only, which does not become vested until after the death of the insured. Hence under such a contract the title vests in the insured because he can, at any time, substitute his own estate or another beneficiary for the one originally named. If, however, under the terms of the contract the insured cannot change the beneficiary, then the title to the policy vests in the latter and can only be transferred to another by assignment.

"Under the laws of most of the states a policy for life insurance made payable to wife and children is not liable for the debts of the insured, and hence, though the insured be insolvent at the time of death, the creditors cannot get any part of the insurance money unless it can be shown that the policy was contracted for after insolvency and the contract was made to avoid the payment of debts and to defraud creditors.



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"It is an established principle of the courts to construe contracts against the framers or makers, on the ground that they are familiar with the technicalities of the law, and are presumed to frame contracts in their own interest. In construing contracts, in case of apparent conflict between written and printed clauses, preference is always given to the written clauses."

The following summary of general policy conditions indicates the practice of the majority of companies:

A copy of the application is attached to the policy so that the insured may be in possession of the complete contract.

The policy contains a clause setting forth that it shall not go into force and effect until delivered during the life time and good health of the insured, and after the required premium has actually been paid.

The majority of companies have some restrictions relating to hazardous occupations during the first, or first two policy years.

Most companies have some restrictions pertaining to military and naval service during war.

Practically every policy contains a suicide clause in one or another form.

The policy becomes incontestable after one or two years.

Provision for reinstatement of lapsed policies is made under varying conditions.

Thirty-one days' grace is allowed in the payment of every premium after the first.

Participating policies contain a clause stating the conditions under which dividends will be paid.

Every policy embraces a table specifically indicating the surrender values and loans available in each year, generally beginning with the third.

Most companies undertake to pay claims immediately after the receipt of proofs of death.

## THE APPLICATION AND EXAMINATION

A contract in law is based upon an offer and its acceptance. In an insurance contract the former is represented by the application, of which the medical examination is a part, and the latter by the issuance of the policy. The overtures of the agent are merely in the



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nature of a proposal or suggestion. Applicants frequently have a distorted idea of the transaction and resent declination as the withdrawal of an offer.

The application form usually contains certain statements which are deemed warranties. In some instances they are accepted merely as representations made in good faith. In either case deliberate misstatement of a fact material to the contract would necessarily constitute fraud and void the policy if availed of during the contestable period.

The medical examination consists of certain physical tests, and replies by the applicant to a series of questions referring to his family history and personal health, past and present. These replies are part of the consideration on which the contract is based.

All rejections become matters of record, even though they result from trial examinations, applications for reinstatement, etc. The statistics of Life Insurance companies indicate that about 10 per cent of all applications are declined.

## POLICY CONDITIONS

In their main features the contracts of leading companies are very similar. An understanding of policy conditions will be readily gained by a study of a specimen Pacific Mutual contract in conjunction with the following explanation of the several clauses.

The Pacific Mutual contract begins by a statement of the Company's promise made in consideration of the payment of the first and succeeding premiums, and of the application, "a copy of which is hereto attached." Technically, the application consists of the form filled by the agent and that portion of the Medical Examiner's report to which the applicant subscribes. Photographic copies of both are included in the policy. Thus the insured is furnished with a complete contract, in the form of all the documents involved in the elements of offer and acceptance.

Then follows a clause relieving the Company from liability on account of Permanent Total Disability after the insured has reached the age of sixty years, and agreeing, otherwise, to make certain payments on this account, "as provided on the succeeding pages of this policy."



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"The first year's insurance under this policy is Term insurance." An explanation of this method of providing for the expense of new business was given in a preceeding paper.

The succeeding clause confers on the insured the right to change the beneficiary at will, but provides that "such change shall take effect upon the endorsement of the same on the policy by the Company, and not before."

**Incontestability.** The contracts of the Pacific Mutual become incontestable after one year, save for two causes, to-wit: the non-payment of premiums, and violation of the conditions relating to naval and military service.

A further consideration is that in the event of the insured committing suicide within one year from the date of the policy, the Company's liability shall be limited to the amount of premiums paid.

The majority of companies make their policies incontestable after one year, but in many cases there are more exceptions than in the Pacific Mutual contract. Encouraged, probably, by the long period of peace through which this country has passed, several otherwise conservative companies have taken the highly questionable step of removing all restrictions regarding military and naval service. The diplomatic complications with Japan a few years ago, the present difficulties with Mexico, and the European conflict of today prove that the war hazard is one which no American Life Insurance company can afford to treat lightly. At the time of our Civil War and the Franco-Prussian War, but a small proportion of the men in any community carried insurance. At this day a large percentage of any American military force exposed to the disease and carnage incident to war would be policyholders. The restriction in the Pacific Mutual policies is, therefore, a wise and foresighted provision.

The paragraph referring to "Statements" has been covered in the disscussion of the Application.

The provision for adjustment of the claim in case of misstatement of age may work to the advantage of the insured, as well as adversely. In either case he will receive the exact amount of insurance or cash to which his premiums entitle him.

The thirty-one days' grace, without interest charge, allowed in the payment of premiums is a measure designed to diminish lapse. The policyholder should re-



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sort to this privilege only in case of necessity. By availing himself of it every year he would practically enjoy the benefit of it but once.

The conditions pertaining to Loans conform closely to the general practice of the most liberal companies. A number of Eastern companies make policy loans at 5 per cent. and should be glad to do so in view of the fact that the rate of interest earned on their mean invested assets is generally less than this figure. The Pacific Mutual, on the other hand, which loans to policyholders at 6 per cent., is securing a higher rate on its funds, and so makes a sacrifice in lending to policyholders at a lower rate. In taking out a policy it is obviously of greater consequence to a man to be assured of a high rate of interest on his Reserve throughout the policy period than to be guaranteed a slightly lower rate in the improbable contingency of his becoming a borrower.

**Participation in Dividends.** The Participating policy forms provide for the payment or credit of dividends annually, which is the only manner in which the Pacific Mutual distributes them. The first dividend is due at the end of the first year, provided the second premium is paid. The payment of a dividend at the end of the first year without this restriction would be reckless liberality toward a lapsing policyholder at the expense of more persistent members. Succeeding dividends are payable unconditionally. The clauses relating to the subject enumerate several ways in which dividends may be used.

In the Non-Participating policy forms the insured is reminded that he is not entitled to share in the surplus earnings of the Company.

In the Income contracts provision is made for the continuation of dividends derived from excess interest earnings after the policy has become a claim.

**Non-Forfeiture Values.** The provisions under this head are practically the same as those in the contracts of other companies operating on a similar reserve basis. Nearly every company makes a surrender charge. In a few cases it is less than that of the Pacific Mutual, whilst in a number it is considerably greater.. The justice of penalizing a man who abrogates his contract, in favor of those who maintain their agreements with the Company, is patent.

The figures in the table of Loan and Non-Forfeiture



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Values have been made with allowance for the surrender charge. They represent the net amounts of cash and paid-up insurance and the period of Term insurance available to the policyholder, except for any liens or credits that may exist.

A policyholder securing a loan is required to discharge any unpaid balance of the current year's premium, to pay interest on the loan in advance to the next anniversary date of the policy, and to pay interest in advance thereafter.

The Company reserves the right to defer the making of a policy loan (except for the purpose of paying premiums) or the payment of a cash surrender value for sixty days after the insured shall have made application. This is a safety provision required by the laws of some states. The Company would resort to it only under the most unusual conditions.

**Restoration.** A valuable condition is inserted under this head. Within five years of lapse, a policy may be reinstated by the payment of past due premiums with interest, provided the holder submits evidence of insurability satisfactory to the Company.

**Instalment Benefits.** Practically all Pacific Mutual contracts, and those of most leading companies, provide for the payment of claims in instalments under various conditions. This, independently of the regular income contracts.

**Permanent Total Disability.** This is a comparatively new form of protection which a number of companies have not yet incorporated in their contracts, though there is a decided tendency toward its general adoption. The feature is growing fast in popular appreciation and the majority of prominent companies now include it in their policy contract. The conditions vary, the Pacific Mutual clause representing the extreme of liberality.

Permanent Total Disability benefits are granted with all Pacific Mutual policies, excepting Joint and Term contracts. Under forms other than the Monthly Income and Corporation such benefits are payable in ten equal instalments of one-tenth of the amount payable under the policy as a death claim. The first instalment is payable immediately upon acceptance of satisfactory proofs, and subsequent instalments are payable annually thereafter.



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It is provided that this benefit shall be available only while the policy is in full force and effect—that is, without any premiums being in default—and on the condition that the insured shall not have reached the age of sixty years at the time of the disability. The benefit shall not accrue in case the policy is continued in force through the application of one of the non-forfeiture values; that is, paid-up or extended Term insurance. Where, under a limited payment contract, all the premiums required have been paid, the Permanent Total Disability benefits are still applicable.

In order to secure this benefit the insured must be permanently and totally disabled so that he is unable to engage in any remunerative occupation. Disability resulting from insanity, or from any disease complicated with insanity, is not covered. The absolute loss of eyesight or the amputation of both hands at or above the wrists, or the amputation of both feet at or above the ankles, or the amputation of one entire hand and one entire foot, according to the terms of the policy, constitute Permanent Total Disability, **even though the assured may be able to engage in some remunerative occupation.**

In case the insured dies before the ten annual instalments are paid under the Disability Benefit the balance of such ten instalments will be paid in one sum to the beneficiary or, if there is no beneficiary, to the estate of the insured.

The payment of a disability claim cancels all other benefits under the policy, and also entails the remission of all premiums. Therefore, after the commencement of the payment of the instalments, there are no further dividends, nor are there any cash, loan or other surrender values.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

QUESTIONS AND ANSWERS

### IX

**81. Name the usual parties to a Life Insurance contract.**

*The Insurer, being the company which issues the contract. The Insured, the person upon whose life it is insured. The Beneficiary, the person to whom the claim is made payable.*

**82. The insurance departments permit the issuance of practically any kind of policy upon one essential condition. What is that condition?**

*Provision for a sufficient reserve to insure the fulfillment of the contractual guarantees.*

**83. What is the proportional amount of insurance contested to that paid in claims?**

*One dollar of the former to one thousand dollars of the latter.*

**84. Under the form of policy granting the right of revocation what kind of interest has the beneficiary?**

*A contingent interest only.*

**85. Under what conditions, only, may creditors attach the proceeds of a policy payable to a wife?**

*When it can be shown that the policy was secured whilst the insured was insolvent.*



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86. **In case of conflict of statement between the written and printed clauses of a contract, to which is preference given?**

*Invariably to the printed clauses.*

87. **What constitutes a Life Insurance application in the technical sense?**

*The form procured by the agent which is commonly termed "the application" and that portion of the examination form which consists of the applicant's answers to questions put by the examiner.*

88. **If an application for the reinstatement of a policy should be declined by the company would the fact become a matter of record?**

*Rejections of all kinds, even though growing out of trial examinations, become matters of record.*

89. **What effect upon a policy claim has a misstatement of age?**

*The amount of the claim is adjusted so as to secure to the beneficiary the precise sum, whether more or less than that provided for in the policy which the premiums paid would have purchased at the correct age.*

90. **Does the Permanent Total Disability provision remain in force under a policy on which all premiums have been paid?**

*It does until the insured shall have reached the limit of age for this protection.*

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X

# Legal Reserve Companies Classified

BY FORBES LINDSAY

The preceding papers have treated of the principles underlying Legal Reserve Life Insurance and the methods of its operations. The essential features have been explained, obviating the necessity of a formal description of the System. It will suffice to summarize the particulars in which it is chiefly distinguished from the counter-system termed Assessment Insurance.

The main requirement of Legal Reserve Life Insurance is the maintenance of a reserve **adequate** to the discharge of all contractual obligations. As a consequence of this condition the Legal Reserve company is enabled and permitted by law to make its contracts in the form of guarantees. The same resource gives it the ability to charge stipulated level premiums and to assure definite benefits. It is subjected to rigid tests of solvency which can be satisfied only by strict compliance with the Legal Reserve laws and conservative management.

There are four classes of Legal Reserve companies, distinguished mainly by their manner of control, to-wit: Stock; Mutual; Mutual, with guaranty capital; and Mixed.

Stock companies are those which have capital stock and which do not issue Participating insurance.

In Mutual companies the policyholders own the assets, share in the savings, or "profits," and, theoretically at least, control the corporation.

The third class is virtually the same as the second. The slight technical difference between them is pointed out in order to explain the apparent anomaly of a purely mutual company with stock capital. Many mutual companies began business with a guaranty capital, the purpose of which was to provide for adverse contingencies during the early years when but little surplus could be accumulated. Generally, it was provided that this stock should draw a preferential dividend of seven per

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cent. and that a certain portion of the future surplus should be set aside for the purpose of retiring the stock at par value. The retirement was to be effected by the vote of the policyholders. During the continuance of the stock, half of the directors were elected by the owners of it and half by the policyholders. In a few cases the guaranty capital under which mutual companies entered into business is still maintained.

It is somewhat difficult to define the difference between the foregoing class and that which is termed Mixed companies. **Dawson,** in **"The Business of Life Insurance,"** puts it thus: "Are the shareholders interested, directly or indirectly, by way of cash dividend or otherwise, in the profits of the company beyond a certain fixed or limited dividend? If not so interested it is a mutual company with guaranty capital; if so interested, a mixed company, i. e., a stock company which issues participating policies." **Alexander,** in **"The Life Insurance Company,"** says: "A company conducted according to the mixed method has a capital. * * * It offers its insurance on the participating plan. That is to say, the premium charged usually corresponds with that charged by the Mutual company; and dividends are similarly returned to the policyholder; but the company does not agree to pay all the divisible profits to its policyholders; it reserves a portion for the shareholders who are the owners of the capital stock. Thus it will be seen that the Mixed company conducts its business substantially on the mutual plan, although only a part of the profits go to the policyholders, and although the government is like that of the Stock company."

After consideration of the foregoing definitions we shall be justified in reaching the conclusion that the only important distinction between the several classes of Legal Reserve companies is represented by the Stock and Mutual concerns. It is equally true that the only essential difference between them lies in the issuance of Participating and Non-participating forms of insurance. In the matter of control, as we shall see presently, the difference is theoretical rather than practical.

The earliest Life Insurance companies were Stock corporations which fixed their premiums at excessively high figures. Mutual companies shortly entered the field, offering Participating insurance at rates considerably



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lower than those of the Stock companies. The natural result was to compel the latter to reduce their premiums, a movement which was continued under competition until the practical limit of reduction has been reached. The relative merits of Participating and Non-participating insurance have been discussed in a preceding paper. It need only be added that insurance of both kinds is now sold at prices probably approaching more closely to actual cost than is the case with any other commodity in general demand.

It must be understood that both Stock and Mutual companies may sell Participating and Non-participating insurance. The right of purely Mutual companies to issue policies of the latter kind has been formally disputed, but never subjected to legal test. In practice, however, the two types of companies generally confine themselves to the class of insurance appropriate to the principles which they represent respectively.

In a few instances, as in the case of the Pacific Mutual, a Stock company pursues both branches of the business impartially. When the expenses of the two classes of insurance and the results of the operations are separately accounted for and appropriated with strict equity, we have, in effect, two companies under one management.

The question of control does not deserve the prominence which is sometimes given to it by advocates of one or the other systems. It seems reasonable to assume, and experience warrants the assumption, that the management of a Life Insurance company in the hands of directors elected by shareholders will be carried on with, at least, the honesty and efficiency that characterizes the conduct of corporations in general. But, in the case of the former, we have exceptional safeguards in the form of the keenest competition and the closest supervision by governmental authorities.

Although the administration of a Mutual Life Insurance company is theoretically subject to the direction of the policyholders, as a matter of fact but a very small proportion of any such body ever exercises an influence in the matter. Under the most liberal system of proxy voting comparatively few holders of policies are represented at an election, and the officers rarely experience any difficulty in commanding a majority of votes.

Gross mismanagement of a Stock or Mutual company



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would certainly result in a change of administration, through the combined action of the interested policy-holders and the immediately responsible insurance department. Ordinary incompetence might be tolerated for a time, but could not long continue under the present competitive conditions and the latter-day force of public opinion.

## INDUSTRIAL LIFE INSURANCE

Hoffman states, with truth, that "Industrial insurance is today the most widely diffused form of thrift in this and other English-speaking countries. While at best and at most it is but a means of providing a relatively small sum of money for certain needs in the event of the death of the insured, its educational value as a method of emphasizing the utility of periodical savings is enormous, affecting as it does the life and well-being of millions of wage-earners and their families. Industrial insurance is today a social institution of great importance, not only to the individual, but equally to society and the State, as making slowly but surely for a higher standard of life and security against the uncertainties of the future."

There were, at the close of the year 1914, more than 31,000,000 industrial policies in force, representing upwards of $4,000,000,000 of insurance. This enormous business has been built up since 1875, when Industrial Insurance, modeled on the pre-existing British system, was introduced in America. Whilst there are 29 companies writing this class of insurance in the United States, about 95 per cent. of the entire business is transacted by the Metropolitan, Prudential and John Hancock insurance companies.

Approximately $50,000,000 are paid in claims yearly by the Industrial companies, the distribution extending to half a million beneficiaries among the lower orders. The primary object of this class of protection is to provide a burial fund for every member of the wage-earner's family. The age limits of insurability are from birth to seventy years, and no distinctions are made on account of sex.

Industrial is distinguished from "ordinary" insurance chiefly by the small amounts of the policies; by weekly premiums which are collected from the insured by agents;



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and by the fact of the amount insured being adjusted to the premium, which is the reverse of the regular practice. The unit of Industrial insurance is a five cent premium; that of "ordinary" insurance a $1,000 death indemnity.

To quote the late John F. Dryden, President of the Prudential Insurance Company:

"The calculation of premium charges for both infantile and adult risks is upon an actuarial basis derived from trustworthy mortality tables. The premiums vary with age, but there are practically no restrictions as to occupations or residence. Careful inquiry is made as to the moral character of the risks assumed.

"The collection of premiums from the houses of the insured is made by authorized collectors, or agents, who are under a most effective system of supervision, supplemented by an audit system of weekly accounts and debits and credits, by which defalcation, fraud, and intentional errors are made difficult and, generally speaking, imposible. Every policyholder has a premium receipt book in which the weekly payments must be entered by the agent, while at the same time a corresponding entry is required to be made in the agent's collection book. The system has worked so well that during the half-century since Industrial insurance has been in operation no important alterations have been made in this branch of office practice.

"To every person insured a policy is issued which in all essentials conforms to the contract issued to ordinary policyholders. The language used is so plain and free from confusing technicalities that it is seldom, indeed, that there are controversies or misunderstandings between the company and the insured. The contract provides for a definite sum payable in the event of death in return for a definite weekly premium, but in addition certain privileges and options are granted to the insured, which provide for a paid-up policy after three years, for aditional benefits after five years, for cash dividends after fifteen years, and for cash surrender value after twenty years.

"Every policy contains a provision that all premiums must be paid in advance on the Monday of the week for which they are due. In the event of a policy being more than four weeks in arrears for non-payment of premiums, the agent is required to report the policy for lapse. Most



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of the lapses of Industrial policies occur during the early weeks of policy duration, when only a few premiums have been paid. Policies can be revived without difficulty provided the arrears do not exceed one year, but it is required that the applicant for revival pass a medical examination, or furnish other evidence of being in good health. There are no fines and every facility is afforded to keep the policy in force. If the arrears exceed thirteen weeks the policy may be revived without the payment of arrears, but in place thereof a non-interest-bearing lien will be issued, the amount of which is deducted, in the event of death, from the face value of the policy.

"In the event of death, every effort is made to pay the claim as soon as possible to carry into effect the general intent of Industrial insurance, to provide for the burial expenses of the insured. The proof of death, however, requires to be supplemented by documentary evidence: (a) claimant's certificate; (b) certificate of identity; (c) certificate of the superintendent or assistant superintendent; (d) certificate of the undertaker; (e) certificate of the attending physician.

"The agency system of industrial companies is in a measure unique and deserving of special mention. A large number of agents are necessarily required to conduct the office and field operations of a company insuring millions of risks, for I may say in passing that 95 per cent. of the entire Industrial business is carried on by three companies. The office organization consists of a large number of departments, which cannot very well be dealt with on this occasion. The field operations require a superintendent in charge of a district, who has the assistance of a number of assistant superintendents, under whom is an agency force that varies in number according to the size of the territory. On the average an agent collects from about five hundred to six hundred policyholders, but his compensation is so adjusted that it is necessary for him in addition to solicit for new business. By this means it is to his pecuniary interest to prevent the lapsing of policies and to increase, as far as possible, the number of policies in force. The amount of collectible premiums is called the "debit," and the agent is held responsible for the condition of his accounts. His books and papers are periodically inspected by assistant superintendents, who have a thorongh knowledge of the busi-



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ness and are personally familiar with all the insured, so that in the event of the resignation or death of the agent there is no interruption or intermission in the collection of the weekly premiums."

Since the papers from which the foregoing material was extracted were written, the following improvements have been made in the Industrial policy:

(a) Policies are now issued on the Twenty Payment Life, Twenty Year Endowment, and Weekly Income plans; whereas, formerly, the Whole Life contract was the only one written.

The Weekly Income policy provides that, instead of a lump sum payment at the death of the insured, his beneficiary shall receive a certain sum each week for a period of 26 weeks.

(b) The present policies are payable for half the benefit at once and the full amount after six months. Paid-up or Extended Insurance is granted upon surrender after the contract has been in force for three years. Cash value is allowed after 10 years.

Under former policies dividends were paid in cash after 15 years. The present practice is, after 10 years, to credit dividends in reduction of premiums.

For further information on this subject see **"Industrial Insurance,"** by John F. Dryden; **"Yale Readings in Insurance, Life;"** **"Industrial Insurance,"** Frederick L. Hoffman; **The American Academy of Political and Social Science, Insurance; The History of the Prudential Assurance Company of London,** (1880); **"Inception and Early Problems of Industrial Insurance,"** Insurance Monitor.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### X

91. **Name the four classes of Legal Reserve companies.**

*Stock; Mutual; Mutual, with guarantee capital; and Mixed.*

92. **What are the chief differences between Stock and Mutual companies?**

*In the former the control and ownership are completely in the hands of stockholders but in the latter the control is held by the policyholders to whom all "profits" or surplus belong.*

93. **In actual practice what is the only essential difference between Stock and Mutual companies?**

*The issuance by the former of Non-participating insurance and by the latter of Participating insurance as a rule.*

94. **Proxy-voting having been proved an ineffective method of representation, what is the chief safeguard of policyholders?**

*The Insurance Departments which may be relied upon to detect and check mismanagement at an early stage.*

95. **How many industrial policies were in force in**



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1914 and how much insurance did they represent?

*Policies,* 31,000,000—*Insurance* $4,000,000,000.

96. What are the chief characteristics of Industrial Insurance?

*Small amounts of policies; premiums payable weekly and collected by agents; the unit is the premium and not the amount of the policy, as in "ordinary" insurance.*

97. What are the age limits of insurability in Industrial Insurance?

*From birth to age* 70.

98. What is the general purpose or intent of Industrial Insurance?

*To furnish means to meet the expense of burial.*

99. On what forms of contract is Industrial Insurance now issued?

*Whole and Limited Payment Life, Endowment, and Weekly Income.*

100. How is the Weekly Income benefit paid?

*The beneficiary receives a certain sum each week for a period of* 26 *weeks.*

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## XI

# Assessment Life Insurance

BY FORBES LINDSAY

We have seen that the premiums charged in Legal Reserve Life Insurance are not only adequate, but also necessary, to the full discharge of death claims. The mathematical demonstration of the effectiveness of the net premium showed, at the same time, that any less sum would be insufficient to fulfill the purpose, except for the aid of favorable factors which cannot be counted on with certainty nor precision. It is true that every well managed company derives from its mortality and investment operations gains which represent premium payments in excess of the cost of insurance, but it is equally true that these gains are irregular and conditional; that they constitute the sole margin of safety possessed by the company, except where capital stock exists, and that they are the only sources of surplus in Life Insurance. In short, since the cost of insurance fluctuates and cannot be calculated in advance, the only practical method of insuring solvency is by securing from policyholders such sums as will at least equal the maximum cost of the benefits guaranteed to them.

During the early years of Life Insurance in this country there was another factor of the business which tended to greatly increase the savings or gains of the companies. Policies contained no surrender values. When the insured failed to meet any due premium the contract was canceled and he forfeited all interest in the payments that he had made. Under such conditions the profits of a company from lapses were extraordinarily large and it was enabled to credit persistent policyholders with dividends much in excess of those paid at the present day.

The dividend was frequently fifty per cent. and in anticipation of it many companies accepted a note in payment of half of the premium. It was natural that the layman should have considered "old line" premiums un-

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necessarily high, under the circumstances, and that he should have failed to see the need of a reserve in a business where twice the amount required to meet obligations seemed to be collected.

The introduction to America of what Dawson terms "the disease of assessmentism" was directly due to the anomalous conditions that obtained in the business of Legal Reserve Life Insurance previous to the passage of non-forfeiture laws which had the effect of decreasing the cost of protection to the insured and reducing the sources of gains by the company. Despite the fact that the weakness of Assessment Insurance in all of its forms had been practically demonstrated in Great Britain, the system extended rapidly throughout the United States and flourished amazingly for the term of a generation. After enormous losses which conclusively proved the fallacy of the Assessment theory of Life Insurance, the system fell into disrepute and is represented now mainly by a greatly reduced number of fraternal orders operating on an improved plan.

The first Life Insurance company to operate on a level premium plan was "The Old Equitable," of London, established in 1762. For half a century previous to this time the "Amicable Corporation" had carried on business under what is now called the Assessment System. The original plan of this concern restricted the age at which members might enter, but charged each of them the same amount annually. At the end of the year the sum received, less the necessary reduction for expenses, was distributed pro rata among the beneficiaries of the members who had died in the course of the year. Under this method the annual levy was a definite sum, whilst the amount of the death benefit was indeterminate. This was soon changed to a contrary arrangement, which became general with Assessment associations in the early days. It operated thus: The amount of individual death claims was stipulated, but no provision was made for the discharge of them until after their occurrence, when a sufficient contribution to make up the required sum was collected from each of the members. These post-mortem levies were called "assessments," and the manner of making them was commonly described as "passing the hat."

The chief objection to this arrangement was found



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in the uncertatinty and fluctuation of cost. An unusually large number of deaths at about the same time resulted in members dropping out and repudiating their liabilities, sometimes with the consequence of claims having to be "shaved."

From this crude and utterly unscientific form, assessmentism has developed, through many stages of evolution, to a greatly improved condition in which some provision is invariably made for future liabilities, and the charges are rated on a comparatively equitable basis.

All Life Insurance concerns outside of Legal Reserve companies fall into two classes, namely: Assessment associations and Fraternal societies. Both classes operate under the Assessment System, but with a great variety of plans. All are affected by the fatal defect of the System, which is failure to make adequate provision for the increasing hazard and the ultimate certainty of death. This weakness has brought about the failure of many hundreds of Assessment associations and a steady reduction of the business as represented by such concerns. Fraternal societies, on the other hand, owing to certain peculiarly favorable conditions, have contrived in many instances to withstand the handicap of inherent unsoundness.

## Assessment Associations

Friendly societies and Fraternal orders had been in existence with indefferent success for centuries in Great Britain before they were introduced to this country. It was not until about fifty years ago that assessmentism gained any considerable foothold in the United States, and the circumstance which gave it an impetus was almost accidental in its effect. In 1868 the Ancient Order of United Workmen was formed at Meadville, Pennsylvania. Its primary purpose was that of a trades union, and one of the incidental benefits was the payment of a dollar by every member to the widow of each of their number at his death. The rapid increase of membership soon necessitated the limitation of the death benefit to $2,000. The order flourished amazingly, spread throughout the United States, and at one time had an enrollment of 500,000 persons, and insurance in force to the amount of $700,000,000.



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The organization of the A. O. U. W. was soon followed by the formation of other orders with Fraternal features, and by numerous local associations that had no other purpose than that of furnishing "cheap" insurance. The latter concerns were called "Business Assessment Associations" by way of distinguishing them from the Fraternals. Between 1870 and 1880 Assessment associations sprang up all over the country, and most of them died in their tracks without making any considerable headway. Their conduct was characterized by universal neglect of the actuarial principles of Life Insurance, and in many instances by disregard of considerations concerning age, health and moral hazard.

A number of concurrent conditions contributed to the growth of this hybrid form of Life Insurance. In the earliest period of the business in America the companies paid extraordinarily high annual dividends. There was little competition or solicitation, so that business was secured at a very low cost. The death rate was unusually low, as might be expected in young companies, and the gains from lapses were large, where no surrender values were allowed. These conditions led to a wide-spread belief, which was naturally fostered by the advocates of assessmentism, that Legal Reserve premiums were much too high and that reserves were entirely unnecessary.

The panic of 1873 occasioned the failure of a number of level premium companies whose funds had been invested in speculative channels. During the stringency of this and the immediately following years, curtailment of expenditure was general, and the appeal of Assessment associations, with their "cheap" insurance on monthly payments, met with a wide response. This movement, which lasted for a decade or more, was not confined to any class, but extended to the most intelligent business men of every community.

The early Assessment associations depended upon postmortem collections to meet their claims, had no reserves, and made the same assessment at all ages. The first reform was to collect an extra assessment and to hold it as an "emergency fund" against the occurrence of an excessive mortality. The next step in improvement was the introduction of "graded assessments." Entrants were charged according to the mortality rate deduced from one of the standard tables, but this charge was



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stationary. As it did not rise with the increase of age, it is evident that the member paid an adequate amount only in the first year and that a constantly increasing deficit was created on his account year by year. The managers of Assessment concerns attempted to justify this shortcoming by the assertion of the fallacy that the influx of young members, or "new blood," as it was called, would keep down the death rate and enable the association to maintain an equilibrium of age. A simple calculation will show that in order to obtain such a result it would be necessary to take in new members at such a constantly increasing rate as to amount to millions in the course of a few years.

As experience revealed the faulty foundation of assessmentism and proved the futility of the remedial measures which have been described, several associations adopted what they termed the "stipulated premium plan." The premium was made with some consideration for the increased cost of insurance incident to advance in age. It purported to be permanent, but the certificate conveyed the right of the association to assess in the event of necessity. Provision was made for a moderate reserve, or "emergency fund," as it was usually termed. In the calculation of this premium, "Legal Reserve" standards were either ignored or arbitrarily modified.

Despite its defects, the "stipulated premium" was a pronounced step in the right direction of improvement. Under this plan a number of associations reached substantial dimensions, and, when their managers were forced to a conviction of the inherent instability of assessmentism, were enabled to re-organize under the Legal Reserve System with varying success.

For many years past Assessment Life Insurance has steadily declined. There are now comparatively few associations operating under this system, and the aggregate insurance carried by them is only about one-tenth of that carried by the Fraternal societies. The latter, although doing business on the assessment principle, have advantages which the associations do not enjoy.

## FATERNAL SOCIETIES

The various friendly societies and Fraternal orders of the present day are a direct outgrowth, with the retention of all the essential original features, of the



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beneficial associations which, in ancient times, were connected with the Roman trades unions and the Saxon guilds. These fraternities cared for sick members and assisted the families of deceased members. Like the modern lodges, they furnished social entertainment and conducted semi-religious rituals.

It has been pointed out that "Business Assessment" insurance in the United States sprang from the Fraternal System. Industrial Life Insurance was also a development of it. The Prudential of London, the pioneer industrial company of Great Britain, had its foundation in the reorganization of a Fraternal Society. The American company of the same name had a similar origin.

It has been already stated that the first Fraternal society to be formed in the United States was the Ancient Order of United Workmen, organized in 1868. The System is, therefore, less than half a century old in this country. During that time it has passed through many changes. In the earlier years orders were started in great numbers and flourished, despite the ignorance and carelessness that characterized the administration of their insurance affairs. In the latter period the lack of foresight began to have its inevitable results. The low mortality natural to young societies gradually rose with their advance in age and the consequent increase in the average age of their membership. A critical condition, which is quite general in its effects, has overtaken the fraternities in recent years. Many of them, which had made no provision against the evil day, failed. Others have been able to maintain their existence by the adoption of drastic measures, but in most cases no more than temporary relief can be expected from the reforms, which must of necessity be extended at some future time.

Although the Life Insurance operations of the Fraternal orders have been characterized by the same fundamental weaknesses and errors which wrought destruction to the Assessment associations, the former enjoy the advantages of peculiar vitality an innate strength that are denied to purely business concerns. Whilst these factors have not proved so potent as the early promoters of Fraternalism anticipated, they have enabled the System to survive, and even expand, under extremely adverse conditions.

A Fraternal order usually consists of a number of



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scattered lodges, under the control, more or less, of a central body, generally styled the Supreme Lodge. The local lodges are composed of members who are acquainted with one another and who have common interests other than the material consideration of mutual insurance. The lodge is a social center. It is, in fact, a club, and, not infrequently, one with elaborate accommodations for ease and entertainment. The members are influenced by selfish motives, no less than by fraternal sentiment and charitable purpose.

The conduct of the Fraternals has been superior to that of the Assessment associations in the matters of economy of management and selection of risks. The conditions in the former are especially favorable to reducing the possibilities of fraud to a minimum. This is an important advantage in the case of the temporary benefits which are the most attractive feature to a large proportion of the membership. When a member is sick or disabled by accident it is customary for a delegation from his lodge to visit him. The ostensible and primary purpose is consolation and assistance, but an actual result is investigation.

These factors, and the democratic system of management and control, are conducive to a degree of loyalty, self-sacrifice and cohesion that have supported the Fraternals in circumstances which the Assessment associations could not withstand, despite their apparently greater financial resources. Among the latter organizations, increase of rates or re-organization has almost invariably been followed by decline and failure. The chief Fraternal orders, on the other hand, have, during the past fifteen years, and especially the past ten years, undergone wide and effective re-adjustment, with general improvement of condition and increase of stability. The proportion of Fraternal insurance to Legal Reserve is smaller than it was a decade ago. This is not due to shrinkage of the former, but to comparatively larger expansion of the latter, which has been by far the greater gainer by the numerous defections from the Assessment associations in recent years. Fraternalism has more than held its own throughout this period of reformation, and the majority of the more important orders have shown a tendency to revive and increase their membership after recovery from the disturbing effect of re-adjustment.



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Few Fraternal orders in the United States are older than thirty-five years. With most of them the fallacy of their insurance methods has only become apparent in recent time. Some disregarded the early indications of danger and, as a consequence, have either gone under or reached a state of hopeless embarrassment. In general, however, there has been an evident appreciation of the situation during the past fifteen years, and more or less intelligent efforts to remedy it. The dissolution of two of the older and larger societies had a powerful effect in prompting such action.

In the early changes of plan the Fraternals displayed a disinclination to abandon their long-established system of furnishing current cost protection, for the method of a level premium with a reserve loading, which they had always condemned as contrary to the principle of Fraternalism, and unnecessarily onerous. A step-rate plan was the first recourse. This involved a reserve in fact, though not in name, but one far from adequate for the purpose in view. This was followed in some instances by the introduction of a level premium regulated on the assumption of a certain lapse experience.

Latterly there has been a general movement on the part of Fraternals toward the adoption of some form of level premium plan, the calculations usually being based on the National Fraternal Congress Table of Mortality which was deduced from the experience of a few orders. Many of the later adjustments entail a sufficient mortality charge at the attained age of the members, but in most cases without provision for the lacking reserves which would have been accumulated had the insurance been in force under this system from the age of entry. This arrangement, whilst giving a semblance of soundness in the sufficiency of premiums charged to new members, leaves a serious deficit which must soon make its effect manifest in a manner that will necessitate a further adjustment. Nevertheless, the condition of the Fraternal orders today is very much better than ever before by reason of these changes and the realization on the part of their members that reserves are absolutely essential to permanency.

Some idea of the important role played by these Fraternities in the social economics of our country may be inferred from the fact that at least one-fourth of the population is interested, directly or indirectly, in their



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operations. With $9,000,000,000 of insurance in force, they have paid $1,500,000,000 in death claims, and not less than $500,000,000 in temporary benefits. By far the greater part of these enormous sums have gone to the widows and children of men who could not have afforded to pay the premiums for regular Life Insurance and who, but for the opportunity afforded by Fraternalism, would probably have died uninsured. The System has done great good by disseminating principles of altruism, co-operation and thrift. From the class to whom it appeals are graduating thousands yearly who, by reason of increased monetary ability and better understanding of the subject of Life Insurance, are taking out policies with Legal Reserve companies.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### XI

**101. Name a former important source of profit to Life Insurance companies which is now a negligible factor?**

*Previous to establishment of surrender values, lapses were, perhaps, the chief source of profit.*

**102. What two radical effects are produced by nonforfeiture laws?**

*The reduction of cost of insurance to the policyholder and reduction of sources of profit to the company.*

**103. What was the prototype of the American Assessment company?**

*The Friendly Society of Great Britain.*

**104. What conditions especially favored the introduction and growth of Assessmentism in America?**

*The extremely large dividends paid by Legal Reserve companies, creating a general belief that these premiums were excessively great. The extraordinary success of the pioneer concern, the United Workmen. The period of business depression and financial stringency which followed the panic of* 1873.



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105. **What was the "stipulated premium plan" of Assessment Insurance?**

*It provided for a uniform premium which was regulated by the age of the insured. The contract was supported by a reserve, though not an adequate one. The association reserved the right to make assessments when necessary.*

106. **What is the fatal defect of the Assessment system in all its forms?**

*Failure to provide for an adequate reserve.*

107. **From what did the Industrial Insurance companies of Great Britain and America spring?**

*From the beneficial orders. The basic purpose of Industrial Insurance is, in fact, precisely that of the old-time Burial Clubs.*

108. **In what especial respects has the conduct of Fraternal Orders been superior to that of Assessment Associations?**

*In the matters of selection of risks and expense of operation.*

109. **Does Fraternalism in the United States exhibit signs of decay?**

*No. On the contrary, with the extinction of the weakest orders and the improvements in the system, Fraternalism exhibits hopeful signs of perpetuity.*

110. **What general benefits have accrued from the operations of Fraternal Orders?**

*They have extended protection to many thousands who could not afford to pay Legal Reserve premiums. They have fostered altruism, thrift and co-operation. They have exerted an educative influence which has resulted in many of their members taking regular insurance.*

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XII

# Organization and Operation of a Legal Reserve Company

BY FORBES LINDSAY

Life Insurance is a highly technical business. The administration of a company is a complex operation. The various departments of a company are charged with tasks of a most diversified character. The head of each must be a man of special qualifications for his particular duties. In the most efficiently officered company the actuary and medical director would be incapable of exchanging positions; the treasurer would not be competent to fill the place of agency director. In order to be thoroughly successful, a Life Insurance organization must have at the head of each of its divisions a man peculiarly fitted by training and ability for the work assigned to him.

There is a close similarity in the organization and administration of large insurance companies. As the Pacific Mutual is typical of a well-established company, and is one of the oldest and largest in this country, we shall gain an understanding of the subject in hand by taking the Pacific Mutual as a representative example.

## DIRECTORS

The Directors are immediately responsible to the stockholders and policyholders for the conduct of the company. The appointment and removal of all officers, as well as the regulation of all salaries and remunerations, are in their hands. They declare all dividends and direct the general policy of the company. In the earlier days of the business it was common practice for directors to perform their duties in a perfunctory manner and leave the management of affairs in the hands of the president. At the present time the directors are held to strict responsibility. They are generally well-informed as to the details of their company's operations and it is usual to form them into committees, to each of which

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is assigned some specific duties of an important nature.

The **Board of Directors** of the Pacific Mutual embraces two standing committees—the **Executive Committee** and the **Investigating Committee—as** well as several special committees.

Among the extensive functions of the Executive Committee are the care of the Company's property and funds; the making of all contracts with General Agents; the appointment and supervision of the Application Committee; the inspection and approval or rejection of all loans.

The Investigating Committee is charged with the duty of making a complete examination of the Company's business for the preceding calendar year, and a thorough investigation of its condition. The Company's Official Annual Statement is subject to the verification and endorsement of this Committee.

## EXECUTIVE DEPARTMENT

The **Executive Department** of a company may be likened to the central station of an electrical system. From this focal point the motive power is transmitted through the various ramifications of the organization Here the general policies of the company originate, and from this center the numerous divisions and subdivisions are controlled and directed.

**The President.** The Chief Executive, or President, is immediately responsible to the Directors of the Company for all details of management. He is seldom charged with specific duties, but must maintain a close oversight of the entire organization. The Directors relegate to him, subject to their approval, most of the functions relating to employees and field representatives. He is the connecting link between the Directors and the Officers of the Company. His subordinates look to him for authority, guidance and counsel. The Vice-presidents work in the closest contact with him and when occasion arises, one or another of them acts in his place.

The ideal Life Insurance president combines in his make-up the qualities of the general, the judge, the banker and the merchant. His outlook must be broad and far-reaching. Perhaps his chief qualification is the ability to select fit men for the important positions of the company, and the faculty of keeping his staff in



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harmonious and efficient working order. The best evidence of his success is found in an organization which operates as smoothly and effectively in his absence as when he is at his desk.

**Vice-President.** The Vice-President of the Pacific Mutual is the active head of the Life Agency Department. He is also the Treasurer of the Company.

**Second Vice-President.** This officer is charged with the supervision of the Accident Department and assists the Vice-President in the management of the Agency Department. In the performance of these duties he spends several months of each year in the field.

**Third Vice-President.** The negotiation of investment loans is largely in the hands of this officer.

**Fourth Vice-President.** This officer is charged with the detail conduct of the Accident Department, and is responsible for its policy forms, claim adjustments, etc.

**Secretary.** The Secretary is responsible for various and extensive duties. He has three Assistants, the Comptroller and the Superintendent of the Renewal Department acting in that capacity. The Secretary keeps records of the proceedings of the stockholders, Board of Directors, Executive Committee, and of all standing comittees. He is the medium through which policyholders and the public communicate with the Company. He edits the Pacific Mutual "NEWS," and prepares the literature which is provided for the use of agents. All commercial advertising done by the Company or its agents is subject to his supervision.

## AGENCY DEPARTMENT

The different divisions of a Life Insurance company are closely inter-related, and the success of each is essential to the success of the whole. The actuary might wreck a company by faulty calculations; the medical director by injudicious selection; and the financial officer by bad investments. It cannot be said, therefore, that any one branch of a company's business is more important than another. It is, however, customary to speak of the Agency Department as the most vital portion of the company's organization, because its activities form the basis for all other operations.

There are two distinctive methods of cultivating the field for business. Under one of these, which is called the



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Agency System, the company makes arrangements with individuals to handle certain territories for it. The contracts provide for stipulated rates of commission and for certain other benefits and aids in securing business. The General Agents, on their part, make contracts with sub-agents to secure business, offering them similar inducements. Under this system the General Agent meets the expenses of running his business and enjoys whatever profits he may be able to secure from it. Under the other method, which is called the Branch Office System, the company works the field directly, making contracts with sub-agents and putting salaried cashiers or managers in charge of the various offices. The New York Life affords an illustration of the latter system, and the Pacific Mutual of the former.

The work of the Agency Department is so extensive and diversified that the responsibilities of it are usually shared by two or three officers. The desirability of a wide distribution of risks induces companies to operate over the greatest extent of territory that may be favorably covered. Managers or General Agents must be secured for a large number of states or smaller agencies; they must be instructed and directed; their accounts and the records of their offices, as well as those of the business of sub-agents, must be kept at the Home Office. The Agency Department must arrange for the admission of the company into outside states; it must take measures to comply with the local insurance laws; it must secure authority for its Managers to do business and obtain licenses for their agents.

It may be added that a company is amenable to the insurance laws of every state in which it operates, no less than to those of the state from which its charter is derived.

The Agency Department is responsible for the performance of agency contracts and the observance of field regulations. It audits agency accounts and assembles them for transfer to the general books of the company.

After a policy has been issued and invoiced by the Policy Department it passes to the Agency Department for statistical record and proper accounting. A separate card record of all new first year's business, whether declined, postponed, issued, not-taken, unpaid or settled, is maintained in this Department.



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The statistical records of the Department show the volume, quality, value and growth of the business, the amount of preliminary business in force, the degree of waste in the first year, the rate of lapse in the second year, and similar information. The Department also keeps complete records of the transactions of individual agencies and the amount of business written and paid for by individual agents.

## SCHOOL FOR SALESMEN

This is a recently organized Department of the Company's business. It is an auxiliary to the Agency Department and designed to increase the efficiency of the field force through a correspondence course of instruction in the theory and practice of Life Insurance. This Department operates under the direction of the School Committee.

**Bureau of Information.** This is a section of the School which exercises a number of secondary utilities. It is a source of information and advice on all matters relating to field work. It circulates among the Company's agencies printed matter conveying suggestions, new ideas, specimen circular letters, and other material of practical value. Individual inquiries relating to Life Insurance subjects and requests for advice on problems of personal work receive specific replies. The services of the Bureau are not restricted to members of the School, but are available to any and all representatives of the Company.

**Research Section.** It maintains a Research Section consisting of several hundred clippings, pamphlets and digests of books relating to all the phases of Life Insurance.

## ACTUARIAL DEPARTMENT

This is the most technical division of a company. The actuary is a man who has had thorough training in the mathematics of Life Insurance. He must, moreover, have a general knowledge of the business and especially of those phases of it which are related to field work.

This Department is responsible for the preparation of the rate-book and for practically all the technical calculations of the Company. It prepares figures for surrenders, adjustments and re-issues. It calculates all



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dividends and issues the statements regarding them which are submitted to policyholders.

The Actuarial Department prepares the forms for Life Insurance policies, policy loan agreements, application for surrender, and application for insurance. (The examination blank, which is part of the application, is prepared by the Medical Department).

This Department submits the excess lines which the Company re-insures, keeps accounts and records of them and transacts all business with the re-insuring company.

The records of the Actuarial Department are various and extensive. They embrace the insurance paid-for, terminated, and in force, divided into classes of policies and showing manner of termination. From these records is deduced the reserve valuation that enters into the Annual Statement. The Department is also responsible for testing and assembling all the figures that are contained in the Annual Statement. An extension of this task is the preparation and printing of the voluminous annual report which is required by the insurance departments. It attends to the payment of premium taxes and various fees, and, in fact, transacts all the business with insurance departments, except that relating to agents' licenses.

The Actuarial Department is constantly engaged in the collection of data relating to mortality, lapses and other experiences. This information is of the utmost value to the Company in the conduct of its business and to the Secretary in the preparation of printed material for the use of the field force .

It may be added that, whilst the Actuarial Department supplies the figures for policy loans, cash surrenders, paid-up insurance, etc., it does not handle the routine correspondence relating to these matters.

## MEDICAL DEPARTMENT

This Department consists of a Director, one or more assistants, and a numerous corps of examiners. The selection and training of the latter is a highly important duty of the Department. All applications and examinations are submitted to the judgment of the Medical Department, but final disposition of them, except in cases of small amounts, rests with the Application Committee.

The actuary bases his calculations on a standard table



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of mortality. It is the purpose and constant effort of the Medical Director to reduce the company's actual experience as much below the tabular figure as possible, consistently with the acceptance of desirable applications. The direct medium for the accomplishment of this object is the careful selection of risks. The aim cannot, however, be achieved merely by examination and investigation of applicants, but necessitates exhaustive study by the Medical Director of the experiences of companies—his own and others—with various classes of risks.

It may be stated that consideration of the medical aspect of a risk is not the sole influence in its disposition. The moral hazard is weighed in connection with a report received from an inspection bureau. The Accident Department may be called upon for an opinion as to the hazard involved in the applicant's occupation. The Company's records may reveal an unfavorable history of its previous insurance transaction with the applicant. Enquiry may discover a rejection by another company, which has not been acknowledged in the application. In fact, all the information bearing upon the case is sought from a number of available sources, carefully sifted and measured by the accepted standards for risks. The result is acceptance on the form and in the amount applied for; offer of a different form or smaller amount; further examination and observation; postponement; or declination.

## POLICY DEPARTMENT

This Department is charged with the care of applications from the time that they are delivered at the Home Office until their final disposition by declination, suspension, or conversion into policies.

After an application has been reviewed a photograph of it and the medical examination is made for attachment to the policy. Before passing the application to the Medical Department, the Index Section is called upon for a statement of the insurance, if any, already carried by the applicant in the Company. Following approval, the application goes to the **Writing Section,** where the policy form is filled out and a card record of it is made. These processes ordinarily occupy but a few hours and the policy is forwarded to its destination on the day in



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which it is written, provided a satisfactory inspection report is at hand. In cases of distant origin, the results of inspection are telegraphed to the Home Office so that it is not necessary to await receipt of the documentary report.

**Re-issue Section.** This is a division of the Policy Department, in which changes of beneficiary, asignments and re-issues are handled. In this Section papers and records are reviewed, the proper forms forwarded for signature and the necessary endorsements made upon policies.

**Filing Section.** All applications, together with any correspondence or papers relating to them, are filed in the central Filing Section of the Company's main vault. Thus all information regarding any application may be readily found under one file in a specific place.

## RENEWAL DEPARTMENT

This Department keeps a complete history of every active policy carried by the Company and a complete insurance account with every holder of a policy. The card records of the Department exhibit name of insured, age, address, plan of insurance, amount, date of issue, premium, beneficiary, dividends paid or credited, notes to cover premium, and every change made. These cards are filed by agencies and all the items pertaining to policies contained in the General Agents' daily reports are posted theron. This requires a careful scrutiny of the records, as no payment can be accepted if the grace period has expired, unless proper evidence of insurability has been received. From the records of the Department the exact status of any policy can be ascertained in a few moments.

**Stencil Section.** Receipts for all premiums are printed on a stenciling machine, as the due dates approach, and mailed to the collecting agencies.

## LIFE MATURITY DEPARTMENT

The Life Maturity Department makes settlement of death losses occurring under the Company's life policies, of claims arising from Permanent Total Disability, and of matured endowments, cash surrenders and deferred dividends.

When notice is received of a policyholder's death,



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this Department reviews all papers pertaining to the policy involved, and, if it is found to be in force, the necessary documents—termed "Proofs of Death"—are forwarded to the General Agent with instructions for their execution, and advice as to whom the proceeds of the policy are to be paid.

Executors, administrators and guardians must furnish the Company with certified copies of their Letters of Appointment. These Court proceedings consume time and entail expense. It is therefore advisable, when the object of the insured is to make the policy payable to a specific person, that the application should definitely indicate such person as beneficiary.

Upon receipt of the completed Proofs of Death at the Home Office the claim is formally approved and a check issued for delivery upon surrender by the claimant of the policy and execution by him of the Mortuary Receipt, acknowledging discharge of the Company's obligation. A statement of settlement, itemizing any additions, such as reversions purchased by dividends, or deductions, such as policy loans, appears on the Mortuary Receipt.

In case of a Life Income policy, the first instalment is paid when the claim is approved. When subsequent instalments become due the Company satisfies itself, through the medium of this Department, that the beneficiary is still alive.

Claims growing out of the Permanent Total Disability clause of the Company's life policies are filed with this Department, which requires satisfactory proofs of the immediate condition of the insured and evidence of continued disability before each subsequent annual instalment is paid.

The proceeds of annuities are paid through this Department, the only evidence of claim being proof that the annuitant is alive.

## POLICY LOAN DEPARTMENT

Whilst the Pacific Mutual, like all other insurance companies, discourages borrowing on policies, applicants for such loans are accommodated with due diligence, the only condition being the deposit of policies as security, and compliance with all legal requirements.

When a request for a loan has been received at the



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Home Office, the Renewal Department submits complete memoranda of the status of the policy, to which the Actuarial Department appends a notation of the present loan value. With this data before it, the Policy Loan Department reviews all the conditions affecting the application and the execution of the papers. If these are satisfactory, the loan agreement is issued for the signature of the parties to it. Under existing insurance laws the majority of policies contain the right to change the beneficiary, which makes the signature of the insured sufficient to effect a loan.

Upon return of the agreement properly completed and accompanied by the policy, the check is issued. The first payment of interest, which is always charged in advance to the policy anniversary, is withheld, together with the premium due to complete the current policy year. With the check the Company issues receipts for the policy and for premiums. In addition, the insured is furnished with a complete memorandum of the loan for immediate information and for future reference. Interest is collected directly from the Home Office, borrowers being notified as due dates approach.

A policy loan may be allowed to stand as a lien against the reserve and, if not discharged before the policy becomes a claim or is surrendered, will be deducted in the ultimate settlement. The Company will accept payment of policy loans, in whole or in part, at any time without notice.

The insurance laws and the conditions of competition have led to the extreme of ease and liberality in the matter of policy loans. As a consequence there has been a steadily increasing tendency to borrow upon insurance security. In by far the majority of instances the repayment of these loans is left to the beneficiaries, thereby reducing the nominal protection which has been provided for them. This is obviously contrary to the purpose and spirit of Life Insurance.

## INVESTMENT DEPARTMENT

The expenses of a company's management are met from the fund created for that purpose. Its dividend disbursements are made from its surplus. The reserve is drawn upon to discharge its insurance obligations. The chief of these are payment of death claims and matured



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endowments. The latter can, of course, be anticipated with precision. The former occur with sufficient regularity and close accordance to "tabular" calculation to allow provision for payment to be made considerably in advance of necessity. Demand obligations—those growing out of the promissory clauses of contracts relating to loans and cash surrenders—are uncertain as to occurence and extent. They depend upon conditions that can neither be controlled nor foreseen by the Company. Commercial depression and monetary stringency are invariably accompanied by heavy demands upon the companies for loans and surrenders. Social changes will sometimes effect the same results. In recent years the increased tendency to travel and the growth in popularity of the automobile, afford illustrations.

It will be seen, then, that an insurance company's financial obligations are to two distinct classes with contrasting characteristics. In one class these obligations are deferred and approximately calculable; in the other they are subject to demand and uncertain as to amount. Evidently, constant preparation must be maintained to meet the latter. This necessitates the holding of a sufficient quantity of readily convertible securities. They must be of stable value and such intrinsic soundness as to insure their buoyancy in a depressed market. Such securities are government, state and municipal bonds, standard railroad and other high class public service bonds. They naturally yield low rates of interest and a company will not own more of them than conservative management demands. The statutory restrictions in the matter are not severe, but every insurance commissioner is vested with discretion as to the acceptance of investments at the company's book value. This undefined power of rejection probably operates more effectively toward conservatism on the part of companies than more restrictive statutes would do.

The ownership of real estate is not usually considered in the light of investment by insurance companies, except as incidental to other uses of the property. The advertising value of office buildings is, however, a generally recognized factor in profit, though not a tangible asset. First mortgages of real estate security are the preferred form of investment with which provision is made for the other class of obligations. This line of invest-



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ment may be made to produce the largest interest return consistent with safety. Nowhere else in the United States can these factors be found in the same degree as in mortgages upon irrigated farm lands of the Pacific Slope.

It is of vital importance to a company that it should obtain a profitable rate of interest. This, and savings in mortality, are the principal sources of gain. A small difference in interest rate may effect a large increase in arnings. To illustrate: In 1906 the rate of interest earned by the Pacific Mutual on mean invested funds was 4.40; in 1915 it was 6.25. The difference between these figures represented in the latter year a gain of $605,143 in its income.

The successful conduct of the Investment Department requires technical knowledge, good judgment, and close attention to a great deal of detail. The Pacific Mutual employs qualified men to appraise values, to inspect property in which the Company is interested, and to report changes due to neglect of improvements, failure to make repairs, and various other developments. A numerous and competent office force is employed in collecting interest, seeing that mortgaged property is adequately covered by fire insurance and that it is duly renewed, ascertaining that taxes and assessments for improvements are paid before the final dates fixed by statute, and in a variety of clerical duties incident to the business.

Other considerations being equal, the Company naturally treats its policyholders as preferred applicants for loans, just as a banker favors his depositors in the same matter. The Company frequently secures insurance in connection with its investment loans, and sometimes requires it as additional security. This, however, only creates an incidental connection between the dealings of the Investment Department and the work of the field force. These two branches of the Company's operations are entirely independent of one another. It is not within the province of the field man to seek loans, nor to enter into any kind of negotiation relating to them.

## ACCIDENT DEPARTMENT

This Department embraces the **Commercial Division, Railroad Division, Monthly Premium Division** and **Life Disability Division.** Each of these divisions has an expert



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underwriter especially informed on the particular hazards assumed by it. The Company maintains an extensive statistical bureau through which it learns the risk in every occupation, as well as the cost of every protective feature in its policies. These accident tables serve a similar purpose to that of the mortality tables in the Life Department, and are so reliable that they work out with almost exactness.

Every agency of the Accident Department is practically an insurance company complete, accepting risks, subject to the approval of the Home Office, issuing policies, and, in many cases, paying claims. Adjustments are closely supervised by the Company and every effort is made to qualify General Agents for handling this feature of the business.

All claims reported to the Home Office are disposed of with the utmost dispatch. On receipt of notice, the record of the risk is reviewed and the necessary blanks are forwarded to the claimant. Immediately upon the return of these in the proper order the claim is paid.

All accident accounts are kept in the Department, as well as extensive statistics of the experience of each agency.

**Commercial Division** insures professional and business men mainly—that is to say, the classes which are generally described as "preferred" or "A" risks. The policies of this section, like those of the others, are especially adapted to the risks assumed and the demands of the classes insured.

**Railroad Division.** This division confines itself to railroad men. Its premiums are mostly collected through the medium of orders on paymasters.

**Monthly Premium Division** does virtually an industrial business in Accident and Health insurance and deals with the classes that buy Industrial Life Insurance. It offers a small addition of Life Insurance to its policy in much the same way as the Life Department sells Accident and Health in combination with Life contracts.

**Life Disability Division.** This division does not issue insurance, but handles all claims involving temporary disability.

## LEGAL DEPARTMENT

The chief duty of this Department is to give such assistance to the Company as will prevent differences in



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which the Company is involved from being carried into a court of law or equity. It is a popular fallacy that the law force of an insurance company is mainly engaged in matters of contested claims. These, in fact, engage its time and activities to a very small extent. For instance, the Pacific Mutual constantly pays practically 100 per cent of its Life claims and over 98 per cent of its Accident claims without litigation. For many years past the general tendency among companies has been toward simplicity and precision in the Life Insurance contract until it has become virtually a promise to pay a certain sum on the concurrence of a certain event, except in case of fraud. This and the pronounced disposition of courts and juries to favor plaintiffs in litigated claims has brought about a practice among legal reserve companies of paying doubtful cases, and of seeking legal relief only in instances of flagrant and provable frauds. To give a comprehensive view of the work of this Department is impossible. A vast field of law is covered in its work, and it is the duty of the Department to supervise all litigation wherever the same may be instituted.

A division devoted to the payment and adjustment of claims is usually embraced in this department. In a company that does business in Accident and Health insurance there is generally a separate Claim Department which, of course, co-operates closely with the Legal Department. The latter conducts cases in court, investigates questionable claims, passes on the phraseology of policies, draws up various contracts, advises in questions of property title, and a thousand other matters of legal import.

The members of this Department must familiarize themselves with the insurance laws of the various States in which the Company operates and, in addition to this, must digest the decisions of the courts of record throughout the Union pertaining to Life Insurance.

## Accounting Department

The Accounting Department has charge of the General Books of the Company, and is responsible for all figures other than non-ledger items in the Annual Statement.

It is required to see that there is proper authority for the issuing of every check drawn by the Company, all disbursements other than those relating to policy con-



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tracts being submitted to and approved by the Executive Committee, after being O. K.'d by the Department responsible for the expenditure, and properly audited.

All expenditures made through any agency are checked and vouched for by the Agency Department before being entered upon the books.

A thoroughly efficient audit is made each month of all policy loans made and interest received.

All policy claims paid, either Mortuary or Surrender, are also checked in this Department.

Every other Department of the Company is required to check up with and keep its records in balance with the respective accounts in the General Ledger.

Daily, weekly and monthly summaries are prepared, giving every item of information required by the Officers and by the Executive Committee in order to keep them in closest possible touch with actual conditions.

A separate set of books is kept for Non-participating business, and the utmost possible care is taken to accurately distribute all entries between the Participating and Non-participating departments.

## SUPPLY DEPARTMENT

The **Supply Department** is also the Purchasing Department.

All supplies used at the Home Office and furnished to the General Agents are handled by this Department, which necessitates the handling of all bills for the same against the Company. The shipment of supplies, accomplished by a system of requisitions, must be handled with dispatch. Each separate requisition is prepared for shipment in exactly the same way that merchandise is handled by the wholesaler.

The Stock Room is extensive, and, as the supplies carried on hand must be arranged in such a manner that each blank, known by form number, may be readily located, an index system is used.

To guard against the supply of any article becoming exhausted, which would necessitate shipping orders short, a system for keeping a record of the stock on hand is in operation.

Each shipment leaving the Home Office is numbered and is receipted for by the General Agent when the pack-



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age reaches him. If the package is lost, the receipt number enables the Department to trace the shipment.

Working material of every kind, office equipment, stationery and supplies of all kinds for Home Office use are also furnished by this Department.

## MAIL OFFICE

The **Mailing Department** distributes incoming mail and collects outgoing mail, assembling letters from various departments and enclosing in one envelope those addressed to the same General Agency.

Modern stamping, sealing, and letter-opening machines are used.

The great value of this Department to the Company rests in the speed and accuracy of its delivery of incoming mail. Letters should be addressed to the proper department, and should be enclosed in such manner as to permit of rapid inspection.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

QUESTIONS AND ANSWERS

### XII

**111. By whom are applications for Life Insurance passed upon in the Pacific Mutual?**

*By the Application Committee.*

**112. State the items of information contained in the policy cards of the Renewal Department.**

*Name of insured, age, address, plan of insurance, number and amount of policy, date of issue, premium, beneficiary, dividends paid or credited, changes in contract, if any.*

**113. With which Department are Permanent Total Disability claims filed?**

*Life Maturity Department.*

**114. What charges are made in connection with a policy loan?**

*Interest in advance to the date of the policy anniversary, together with the premium necessary to complete the current policy year.*

**115. Why does every company need to carry a certain quantity of "quick" assets?**

*Chiefly to meet unexpected demands for policy loans.*



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116. **What branch of our Company disposes of disability claims under Combination Insurance policies?**

*Life Disability Division of the Accident Department.*

117. **Describe the distribution of responsibility in a Life Insurance company.**

*The chief responsibility rests on the Directors who are answerable to the stockholders or policyholders; next the Officers who are answerable to the Directors; Heads of Departments who are answerable to the Officers; office employes who are answerable to the Heads of their respective departments. In the field, General Agents are responsible to the Company through the Agency Director and Sub-Agents to the General Agents with whom their contracts are made.*

118. **Which do you consider the most important Departmen of a Home Office force?**

*The Executive.*

119. **Mention the duties of the Secretary of the Pacific Mutual which relate to the field force.**

*He edits the "News," prepares canvassing literature and supervises all commercial advertising.*

120. **What are the principal functions of the School for Salesmen?**

*To instruct the Company's agents and to furnish information and advice on all matters relating to field work.*

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## XIII

# Life Insurance Investments

BY FORBES LINDSAY

It can hardly be necessary to state that the safe and profitable investment of Life Insurance funds is a factor of the most vital importance in the economy of the business. These investments, which constitute over 80 per cent of all the assets, include the reserves on which companies depend for the discharge of contractual obligations. The problem is a weighty one, not only on account of the enormous sum represented by present Life Insurance assets, but also because these must constantly increase. An essential feature of the level premium system of insurance is the maintenance of reserves adequate to the discharge of all future liabilities. Consequently, as the insurance in force grows, the accumulated funds of the companies must expand correspondingly. In 1860 the assets of Life Insurance companies doing business in New York aggregated $24,000,000. They are now rapidly approaching $5,000,000,000. What will be their amount at the end of the next half century?

The first consideration in the investment of Life Insurance funds is safety. The solvency of the company demands, however, that their employment shall yield an average net rate of interest at least equal to that on which the reserve computations are based.

It is, of course, desirable to exceed this figure as greatly as possible, provided the effort does not involve any danger to the principal. Losses and depreciation cannot be entirely avoided by the most careful management and the distribution of investments is usually contrived with a view to securing the effect of averages in these contingencies.

Investing funds is a business calling for expert service and all the large companies have a special department devoted exclusively to it. The salaries and ordinary expenses involved in the maintenance of this department are considered items in the cost of general operation,

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but the actual expense of making investments, as well as losses incurred in them, are charged to the investment account and deducted from the gross profits gained by the department.

With the foregoing exception, the expenses of a company's management are met from the fund created for that purpose by the premium loading. Its dividend disbursements are made from its surplus. The reserve is drawn upon to discharge its insurance obligations. By far the greater part of these arise from death and the maturity of endowments. The latter can, of course, be anticipated with precision. The former occur with sufficient regularity and close accordance to "tabular" calculation to allow of provision for payment to be made considerably in advance of necessity. Demand obligations—those growing out of the promissory clauses of policies relating to loans and cash surrenders—are uncertain as to occurrence and extent. They depend upon conditions that can neither be controlled nor foreseen by the company. Commercial depression and monetary stringency are invariably accompanied by heavy demands upon the companies for loans and surrender values. Social changes will sometimes effect the same results. Illustrations are afforded by the increased tendency to travel and the growth in the popularity of the automobile, during recent years.

It will be seen, then, that an insurance company's financial obligations are of two distinct classes with contrasting characteristics. In one class these obligations are deferred and approximately calculable; in the other they are subject to demand and uncertain as to amount. Evidently constant preparation must be maintained to meet the latter. This necessitates the holding of a sufficient quantity of readily convertible securities. They must be of stable value and such intrinsic soundness as to insure their buoyancy in a depressed market. Such securities are high-grade bonds of various descriptions.

Notwithstanding the great increase in policy loans during the past thirty years the need of immediate provision for this kind of demand has been greatly reduced in the past few years by the inclusion of a clause in the contracts of the leading companies, retaining to them



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the right of deferring policy loans for sixty or ninety days after application.

The term "investments" in connection with the Life Insurance business signifies funds which are not immediately needed—mainly reserves, but also general surplus. Their care and disposition constitute a distinct trust and entail grave responsibilities. It is entirely proper that the executives charged with these responsibilities, and who are usually peculiarly qualified to discharge them, should not be hampered in the free exercise of their judgment and experience in making investments. There are various statutory restrictions affecting the matter in different States. With few exceptions, they are neither severe nor unreasonable, but every insurance commissioner is invested with discretionary power as to the acceptance of investments at the company's book value, and he may require the conversion of investments which do not meet with his approval. This undefined right of rejection and reappraisal probably operates more effectively toward conservatism than more restrictive statutes would do.

Compulsory local investments of Life Insurance funds, which is a legal requirement of one State and has been considered by legislators of others, is the most pernicious of latter-day innovations affecting the business. If widely enacted, such a law would make the investment of Life Insurance funds much more expensive and difficult than at present, whilst increasing the hazard attendant upon it and decreasing the earnings derivable from it. The entrance to the field in the past decade of a great number of new companies has created a sectional feeling which has had a detrimental effect on the investment and other branches of the business.

Insurance funds are distributed through two main fields of investment, one embracing "slow assets," such as city and farm properties; the other, "quick assets," such as bonds and stocks, readily marketable on the exchanges. The former class returns the higher rate of interest, but the latter has the advantage in the matter of convertibility.

Most of the companies specialize in certain kinds of investments, the choice being determined by peculiar conditions, exceptional experience or unusual facilities.



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One company has the bulk of its assets distributed in small farm loans; another in large city loans. Each has an investment department especially adapted to the character of its business, just as a third company, making a specialty of corporation securities, retains the services of experts in that class of investments.

The combined and individual holdings of the companies in the two general classes of investments have fluctuated markedly in correspondence with changes in conditions affecting securities. At one time repudiation of liabilities by certain states and cities had a depreciating influence on all kinds of bonds. Fifty years ago farm mortgages in the middle west were looked upon with disfavor. They are now among the most sought-after investments. Since the setting in of the wave of adverse legislation which, during late years has been directed against industrial and public utility corporations, Life Insurance funds are not invested in their bonds to to anything like the former extent.

During the period from 1893 to 1903 the Life Insurance companies doing business in New York State increased their holdings of real estate mortgages by 67 per cent. In the following decade there was a further increase of 140 per cent. Nevertheless, the companies with the largest assets continued to have a very much greater proportion of them invested in stocks and bonds than in real estate mortgages. At the close of 1913 the twenty-nine leading companies had in the aggregate approximately two billions of dollars invested in stocks and bonds and one and a half billions in mortgages. A similar calculation involving all the companies would show that at the present time the Life Insurance funds engaged in one of these classes of investments about equal the funds invested in the other.

Government, state, municipal, county, township and school district bonds are considered the best investments from the point of view of security, and long term. During the ten years of 1892 to 1902 almost three billions of bonds of this description were issued on which the total losses aggregated no more than $287,000, or .0096 per cent.

Standard railroad bonds are favored by Life Insurance investors on account of safety, long term, ready convert-



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ibility and tendency to appreciate in value. Since the first publication of railroad statistics by the Interstate Commerce Commission in 1888 it has been possible to analyze operating results and check up reports with sworn returns. Previous to that year railroad statements had generally been fragmentary, defective and without audit. The investment department that deals extensively in such securities will make its own investigations, although it may be guided more or less by the advice and judgment of bond houses with which it has business relations.

Bonds of public service concerns, such as light, power and water companies and those of industrial corporations are not generally purchased by conservative Life Insurance companies. The former are dependable on legislative franchises which may be called into question. The latter are too much dependable on the personal equation.

Quick assets or readily convertible securities return lower rates of interest than those earned on real estate mortgages. Nevertheless, the former secure a considerable margin over the rates of reserve computation, which are 3 and 3½ per cent. The average rate of interest earned by the twenty-nine companies referred to above was 4.61 per cent and those among them with a larger proportion of investment in securities than in mortgages had interest earnings on their total assets ranging from 4.36 to 4.89 per cent.

(If the limits of the paper permitted it would be appropriate to discuss amortization in this connection. Amortization is the gradual extinction of premiums or discounts on fixed-term securities, in such amounts and regular periods as to bring the securities to par at maturity. The method is applied by insurance companies to permanent holdings of bonds and other securities.)

Although large profits have been derived by companies from the possession of stocks, investments in them have been subjected in recent years to adverse criticism and, in some States, to prohibitive legislation. In 1900 slightly more than 6 per cent of the total Life Insurance reserves were invested in stocks; in 1913 the ratio had fallen to less than 2 per cent. The speculative element in stocks is one of the objections urged against them.



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A stronger one, perhaps, is that ownership virtually involves engagement in the business of the company which issued the scrip. The Armstrong investigation disclosed the fact that certain companies had used their stockholdings to obtain control of financial institutions and that officers and directors had turned the condition to their personal advantage.

"Cash in hand," which includes funds on deposit in banks as well as money in the vaults, is an item which, on account of its limited earning power, a company should maintain at a figure as nearly representing its immediate needs as possible, but in addition there may be at any time considerable sums awaiting investment. A few years ago several large companies maintained very heavy and quite unnecessary deposits in banks and trust companies. Much of this money was lent under conditions which involved high rates of interest, but at a risk to which insurance funds should not be exposed. One company, at least, relied on this use of ready money to an extent that considerably reduced the proportion of its assets in permanent interest-bearing investments. Such a condition cannot be remedied readily, for time is required to make investments carefully and profitably, not to mention the difficulty in finding opportunities for placing large sums.

Western Life Insurance companies have enjoyed an advantage over those in the East from the investment of the largest proportion of their assets in farm mortgages. The company which earns the highest rate of interest on its mean invested assets has practically all its funds engaged in this field of investment. It is one which yields a much larger return than can be gained from bonds and is equally safe, provided good judgment is exercised in making loans and an ample margin of value is contrived. First mortgages in conservative amounts on irrigated producing land are almost as liquid as high-grade bonds. There is always a ready market for the former without discount. Eastern companies are awakening to a fuller appreciation of these facts and are constantly increasing their holdings of this form of investment, several of them maintaining loan agencies in the West for the purpose.

This class of investment business requires special



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knowledge, close attention and much detail work. The company largely interested in it maintains an office force experienced in the particular clerical operations incident to it. It also employs experts to examine and pass upon property offered as security and to appraise its value; to frequently inspect properties on which the company has loans; to report deterioration of value due to change of condition, neglect of improvements and repairs, or other causes. The legal department is called upon to investigate various features of proposed mortgage transactions, such as questions of title, character of encumbrances and requirements of law. The loan department employs men to collect interest promptly, to see that sound fire insurance is carried and renewed in season; to ascertain that taxes and various municipal or township assessments are met in good time. To carry on all this work efficiently a knowledge of the property and tax laws of many states is necessary.

It is a fundamental axiom of the Life Insurance investment business that loans should be made only on property, whether real estate or securities, which produces a sufficient annual income to meet the expenses connected with its operations, as well as all other liabilities, such as interest and taxes.

Conservative investment managers avoid loans on property the value of which is derived from speculation, which depends largely upon personal management or which is susceptible to deterioration by the influence of chance circumstances.

First mortgages, only, are considered and an ample margin of safety is secured. The usual practice is to lend not more than 50 per cent of the land value, regardless of improvements. In large cities, where values are measured by standards, and demand is constant, the percentage of loan is often greater. On the other hand, the competition reduces interest rates and the diminished margin enhances the danger of loss.

Properties devoted to public purposes, such as hotels, apartment houses, theaters, etc., are subject to the objection that in case of foreclosure they entail troublesome supervision and expensive maintenance.

Notwithstanding the expense attendant on extensive investment in real estate mortgages, the high rate of in-



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terest derived from them and their freedom from the market fluctuations that affect securities make them the most desirable channel for the employment of Life Insurance funds. An intangible but not the less actual advantage derived from small loans to borrowers on real estate security is that of numerous business connections with co-incident extension of good-will.

Life Insurance companies rarely acquire real estate except for their own uses or through foreclosure. In the latter case the property is disposed of at the first favorable opportunity, some States requiring that this shall be done within two years. Office buildings, when not entirely occupied by the companies owning them, are a source of revenue and allowance is generally made for their advertising value. In 1884 the real estate holdings of the companies represented 10.94 per cent of their assets; in 1914 they were no more than 3.38 per cent. The diminution in the percentage is probably due as much to marking down values as to decrease in extent.

The solvency of a company—its ability to meet its contractual obligations—rests upon the safety and profit with which its reserves are invested. As net premiums are calculated on the assumption of a certain minimum rate of interest being realized on the reserves, the sufficiency of the former is dependent on the latter condition. The average return of the combined investments of all Life Insurance companies is somewhat more than 4.75 per cent which is 1.25 to 1.75 per cent in excess of the standard rates for reserve computations.

In case of the average rate of interest on a company's reserves falling below its operating rate the deficit would be made up from its surplus. If a general decline in future interest rates should seem probable, a prudent company would anticipate the effect of such a development by applying a portion of its surplus in the meantime to the reduction of its security valuations.

In computing the rate of interest earnings, Life Insurance companies use a method differing somewhat from the usual practice. On this point Moir says: "If the interest earned in any year were divided by the funds invested at the beginning of the year, then those companies which had a large increase in their funds would appear too favorably in the comparison. On the other



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hand, if the year's interest were divided by the funds at the end of the year the converse would hold. For measuring the interest earned by Life Assurance companies a middle course is usually followed, and the following formula has been suggested as a good basis:

$$\text{Average rate earned} = \frac{2I}{A+B-I}$$

In which I represents the total interest earned during the year; A, the funds at the beginning of the year; and B, the funds at the end of the year."

Further study of this question may be made by reading the following: **"The Investments of Life Insurance Companies,"** Zartman; **"Investment of Insurance Funds,"** Lunger; **Yale Insurance Lectures; "Life Insurance Investments,"** Hamer; **"Insurance," American Academy of Political and Social Science;** "Investment of Funds," Dawson, in **"Business of Life Insurance"; "The Call for Investments,"** Hurrell, in **Proceedings of Life Insurance Presidents.**



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### XIII

121. **What is the chief consideration in the investment of Life Insurance funds?**

*Safety.*

122. **Wide distribution is generally sought in the investment of Life Insurance funds. Why?**

*For the same reason that wide distribution of risks is sought—to insure average experience.*

123. **Are the profits from investments net?**

*No, the cost of operation is charged to them.*

124. **What protective measure has recently been adopted by a number of companies against the possibility of excessive premium loan demands at an unfavorable time?**

*The inclusion in policy contracts of a clause retaining to the company the right of deferring such loans for sixty or ninety days after application.*

125. **In the main, what classes of funds are represented in Life Insurance "investments"?**

*Reserves and General Surplus.*



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126. **Why are compulsory local investments objectionable?**

*They increase expense and hazard, as well as frequently decreasing the profits. They are wrong in principle because impossible of general adoption.*

127. **In what two classes of securities are the bulk of Life Insurance funds invested?**

*Bonds and Real Estate Mortgages.*

128. **What class of investments yields the highest rates of interest?**

*Farm Mortgages.*

129. **What department of a company works in close co-operation with the Investment Department?**

*Legal Department.*

130. **In making real estate investments what proportion of the appraised value is usually lent?**

*Not to exceed 50 per cent, regardless of improvements.*

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## XIV

# State Supervision of Life Insurance

BY FORBES LINDSAY

The Life Insurance contract, the relations of the parties to it and the interests involved in it differ in several respects from the contracts, relations and interests pertaining to commercial transactions.

Life Insurance, as a business, has a much more far-reaching influence upon the welfare of the community at large than any commercial enterprise could have. The magnitude of Life Insurance in America and the large proportion of our population which is interested in it, invest it with the character of a public institution. The guardianship of its funds and the fulfillment of its obligations are peculiarly in the nature of a sacred trust. In the majority of instances its promises are redeemable only after the death of the insured, and then to widows and orphans. Its principles and operation are so little understood by the public that mismanagement, and even dishonesty, in the conduct of a company might escape detection by its policyholders until the results had become irremediable.

These conditions afford sufficient ground for the supervision of Life Insurance by the State, the advisability of which has never been called into question. Examination of the early laws and ordinances relating to Insurance, which date back to the 13th century, clearly indicates that it has been, from its inception, subject to some degree of governmental regulation. This, in the earlier period, however, was generally of the same character as the regulation exercised over corporations in general and affected by the same laws.

Previous to 1885 Life Insurance companies were subject only to general laws which laid down the conditions under which they might be organized and operated. There was no attempt to regulate administration or management. There was not even any requirement regard-

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ing the maintenance of reserves, nor were detailed reports demanded. In 1852 the State of New Hampshire established an Insurance Department which, however, appears to have restricted its attention to fire insurance for several years after its inception. The first State department to assume supervision of Life Insurance was created by Massachusetts in 1855. Four years later New York took a similar step. The action of these states was gradually followed by others and at the present time every State and Territory exercises close supervision over Life Insurance companies. The departments or bureaus are supported by fees and taxes collected from the companies, the amounts received by the several States being greatly in excess of the cost of supervision. Indeed, supervision in this country was primarily for the purpose of raising revenue, which is still one of its chief objects.

The States' laws governing Life Insurance are far from uniform and, as a company is amenable to the legislation of every State and Territory in which it does business, the larger and more successful concerns are subject to forty or more varying and occasionally conflicting sets of laws, together with as many differing degrees and methods of taxation.

In 1859 the Massachusetts Insurance Department adopted a definite mortality table (Actuaries) as the standard of computation, and two years thereafter established a standard of solvency, with which companies operating in that State were required to comply. The Insurance Department of the same State was responsible for the first Non-forfeiture law, as well as most of the early reforms in the business. Now, however, several States have Life Insurance statutes and regulations equally as good as those of Massachusetts.

A general requirement of the insurance laws is a deposit with the Treasurer of the State of approved securities to the value of $100,000. This is a measure of little consequence or effect, except in cases of new companies, which are apt to exaggerate its importance. Since all old line companies are obliged to maintain adequate reserves, the security of the policyholder is equally as great whether the documents representing them are kept in the company's vault or at the State House. So long, however, as the insurance commissioners illogically and un-



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justly decline to admit these deposits as assets, they are in the nature of a contingency reserve.

Though the insurance laws vary greatly in different States the main purposes of all alike are to insure the solvency of companies, to guarantee protection of policyholders, and to create revenue for the States. A company must comply with the laws of ever State in which it operates, and in order to secure admission to a State other than that in which it was incorporated, it must file a detailed statement of its condition and methods of business.

The insurance departments of every State make periodical examinations of domestic companies. Examinations are in some cases made yearly ,and rarely more than three years apart. Generally the resultant certificates are accepted by the commissioners of other States, who have, however, the right to examine at any time any foreign company doing business in their territory. These examinations, which are made at the expense of the company, used to be unnecessarily frequent. A great deal of trouble and expense is now avoided by the operation of the National Association of Insurance Commissioners, which is entrusted with the task of securing information for the departments in general. The work of its committee has no effect, however, upon the periodical examinations by commissioners of their home companies. These inspections are usually restricted to the transactions of the company in the previous year, and verification of its assets and liabilities.

All the Legal Reserve companies are required to file detailed annual reports with the insurance departments of every State in which they do business. This was an onerous task when wide variance existed between the character of reports demanded by different States. Of late years there has been a tendency toward uniformity and greater detail of statement. The annual report conveys analytical information of the company's financial and general standing; the nature of its risks and contracts; the character and extent of its income and outlays; the amounts of its reserve and surplus, together with the manner of investing the funds representing them; lapses and medical examinations; salaries and commissions; and, in short, the most minute particulars



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of its business. The Annual Statement, published by every company as soon as possible after the close of the year, is a summary of the report made to the insurance departments of the States in which the company operates.

The student will profit by a study of the detailed statement of a Life Insurance company as found in any of the published reports of the insurance departments, the statement of the Pacific Mutual being recommended as typical. In this connection the following explanation will aid the understanding.

Under "Income" are several items of dividends and surrender values "applied" to various purposes. These items appear again under "Disbursements," but they are neither received nor paid out and actually represent transfers of credits on the books.

"Consideration for original annuities involving life contingencies" and "Consideration for supplementary contracts not involving life contingencies," are not receipts in reality but are based on the fact that at the maturity of a policy the claim under which is to be paid as an annuity or by instalments, the present value of the future payments is entered as a death loss or endowment settlement in the "Disbursements" and offsets the above-mentioned items under "Income." For instance, a claim entailing a monthly income, payable during the life of a beneficiary, would show in the former classification of "consideration"; if the payments were to be limited to a certain number of years, the item would fall into the latter classification.

It will be noticed that a company's main source of income is from premium receipts. These are reported under several headings. "First year's premiums on original policies" of course refers to the initial payment due on the issuance of a contract. "Renewal premiums" are all those succeeding the first. "Extra premiums for total and permanent disability benefits." The charge for the benefit in question is included in the policy premium and not shown separately in the contract or rate book. The laws of several States require, however, that a specific charge be made for the benefit. "Net amount of uncollected and deferred premiums." (**Mem.** The word "defaulted" in the California Insurance Report (47th) should read "deferred.") Theoretically all Life Insur-



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ance premiums are payable for an entire year in advance. In practice the companies accept semi-annual and quarterly payments. The insured is, however, liable for a complete year's premium and in the event of death occurring before any unpaid portion becoming due, it would be deducted from the amount of the claim. Such unpaid proportional premiums are termed "deferred premiums" and companies are properly permitted to list them under "Assets." "Uncollected" or "unreported" premiums are those on policies in process of delivery, settlements for which have not yet reached the home office.

The reserves constitute by far the largest proportion of the liabilities. Of the remaining items under this head the largest is the surplus fund held for "apportionment upon deferred dividend policies." Other items of consequence are "dividends declared or apportioned," and policy claims in suspense, mostly death losses reported and in process of settlement.

As receipts and outlays on account of investments generally represent changes in assets without material increase or decrease, this movement of funds is not noted in the statement, but an investment exhibit is attached to it.

The Gain and Loss Exhibit, which is a brief summation of the year's transactions, shows large gains from mortality savings and excess interest earnings. The "loss from loading" is, to a large extent at least, temporary. Such a condition will always appear in the statements of companies selling Non-participating insurance to any considerable extent. As has been explained in one of the preceding papers, in making Non-participating rates, future gains are anticiupated. The flat premium is made with a very low margin for expenses—altogether too low to take care of the first year's cost—and later gains from mortality saving and interest earning are depended upon to make up the initial "loss from loading."

It will be noted that "investment expenses" are charged against the interest earned.

The laws of all states require that the companies shall maintain a specific reserve, but the requirement is not uniform. On policies issued prior to 1900 the legal re-



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serve is generally based on the American Experience Table and 4 per cent interest. For insurance of later issue the standard in most States is 3½ per cent, though a few States still maintain the 4 per cent basis for all business. Companies making their computations on a lower basis than that allowed by a State are, nevertheless, required to maintain reserves consistent with their own standard.

A number of laws are directed toward securing equitable and impartial treatment of policyholders. Most States prohibit any discrimination between policyholders of the same class and age in the matters of rates, benefits and contract conditions. With very few exceptions, of which California is one, the States have laws prohibiting any agent or other representative of a company from giving any rebate of a premium directly or indirectly, or offering any consideration not contained in the contract as an inducement to insure. In a number of states the use of stock, "advisory board agreements" and similar inducements to insure are illegal.

Laws in some States prescribe methods of dividend distribution and limit the amount of accumulated surplus which a company may retain. Legal restrictions have also been placed upon expenses, salaries and other details of administration.

State supervision has unquestionably wrought important improvements in the Life Insurance business and beneficially affected the interests of policyholders. By establishing standards of solvency, it has compelled conservative management, eliminated wild-cat concerns and created public confidence. By the passage of non-forfeiture and similar protective measures the States have promoted the welfare of policyholders. The publicity incident to the supervision of the insurance departments has had a generally good effect on the conduct of the business.

On the other hand, State supervision, with its multiplicity of varying laws, its numerous centers of authority and control, its costly and not infrequently inefficient administration, is not at present a satisfactory institution. The insurance companies keenly feel the burdens and vexations to which policyholders are generally oblivious,



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although the consequences fall directly upon them as the purchasers and owners of the insurance affected.

The chief abuse connected with State supervision lies in the system of taxation. In this, as in other insurance legislation, no attempt at uniformity is made. The rate of tax ranges from 1 to 3 per cent, and in some States, counties and municipalities impose additional levies. The taxes and fees collected from the companies aggregate more than $12,000,000 annually. It is needless to say that this sum is greatly in excess of the expense incurred in administering the several insurance departments.

In general the State tax is imposed on gross premiums, the assumption being that they represent income in the ordinary sense and include a large proportion of profit. As a matter of fact, Life Insurance premiums are funds collected for the purpose of distribution and mainly represent liabilities, losses and expenses, neither of which is subject to taxation in any other business.

Representatives of Life Insurance are divided on the subject of remedy, one party looking for relief in Federal supervision, the other resting its hopes on reform of the present system. The difficulties in the way of Federal supervision appear to be insurmountable and it is by no means certain that the expected improvement would result from its attainment. On the other hand, there is nothing inherently defective or weak in State supervision and the clearest road to eradication of the existing objections to it would seem to lie in co-operation of all insurance companies with that end in view.

The following sources of further information are recommended: **"Principles of Insurance,"** Gephart; **"Business of Life Insurance,"** Dawson; **"Mistakes in State Regulation,"** Zartman, in **"Yale Readings in Insurance"; Proceedings of Association of Life Insurance Presidents; "Federal Regulation of Insurance,"** J. M. Taylor; **"State Supervision,"** T. W. Blackburn.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### XIV

131. **When was Life Insurance first subjected to governmental regulation?**

*At its inception.*

132. **Where did the Non-forfeiture provision and the Standard of Solvency originate?**

*With the Massachusetts Insurance Department in 1859.*

133. **A State standard of reserve is 3½ per cent. A company doing business in it makes its calculations on a 3 per cent basis. What reserve would the company be required to maintain?**

*A 3 per cent reserve.*

134. **What is the chief benefit that has accrued from State Supervision?**

*By establishing standards of solvency it has compelled conservative management and created public confidence.*

135. **Name some other advantages that have been wrought by State Supervision.**

*It has led to the passage of many laws favorable to policyholders. It has eliminated unsound and spec-*



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*ulative methods of business. It has brought about a wholesome degree of publicity.*

**136. Name some of the disadvantages of State Supervision.**

*It is the cause of a multiplicity of varying and sometimes conflicting laws. It has occasioned excessive taxation. It entails upon the companies a needless amount of regulation and work.*

**137. What is the usual method of imposing a state tax on Life Insurance?**

*By charging a certain percentage of gross premiums.*

**138. What is the fundamental error in State taxation of Insurance premiums?**

*The assumption that they represent income in the ordinary sense and include a large proportion of profit. As a matter of fact, they are funds collected for the purpose of distribution and mainly represent liabilities, losses and expenses, neither of which are subject to taxation in any other business.*

**139. What are the chief items in the annual report of an Insurance company to an Insurance Department?**

*Information as to a company's financial and general standing; the nature of its risks and contracts; character and extent of its income and outlay; the amounts of its reserves and surplus, together with the manner of investing the funds representing them; lapses and medical examinations; salaries and commissions.*

**140. What would appear to be the best remedy for the defects of State Supervision?**

*Co-operation of all the interests involved in an honest effort to improve the system.*

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# XV

# Disability Insurance

## Part 1

## History and Development

BY FORBES LINDSAY

Life and Casualty insurance trace back through the British Friendly Societies and medieval guilds to the Greek and Roman fraternities which combined in their functions religious, social, trade and provident features.

Of the various beneficial associations which antedated the Friendly societies, none attempted to define precisely the casualties aaginst the consequence of which it undertook to provide, nor the contributions of members to meet the cost of provision. By placing the protection upon a definite basis as to risks, indemnity and assessments the Friendly Societies originated some of the fundamental features of modern life and accident insurance. Indeed, the Societies went further than do the present day insurance companies, in as much as the former provided for invalidity arising from old age, a risk which life companies do not contemplate at all and Casualty companies avoid by terminating their contracts before the possibility of its occurrence. In fact, a large proportion of the relief afforded by beneficial societies and fraternal orders in Europe and America has always consisted of payments to injured and invalid members.

Old age invalidity is provided for in most of the systems of State or Social insurance. Its absence from the plans of personal protection operated by insurance companies is the one thing needed to make those plans completely effiective.

### Accident and Health Insurance

Several corporations were formed in England for the purpose of Accident underwriting during the former

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half of the nineteenth century. It does not appear, however, that any of them actually entered into the business before the Railway Passengers' Assurance Company which was chartered in 1849 and immediately became active. The protection afforded by the company was restricted to the hazards involved in railroad travel. At that time the risk was very much greater than at present and the public estimation of it was, as it is today, an exaggerated one. The physical form of the company's contract was, and still is, a ticket issued to cover a particular journey, or a period of twenty-four hours.

The inception of Accident Insurance in the United States was marked by the organization of the Travelers' Insurance Company in 1863. Its promoter derived his idea of the project from the Railway Passengers' Assurance Company and at the outset adapted its system to the operation of the "Travelers."

A few companies had been incorporated in Massachusetts during the forties for the purpose of granting Health Insurance. The proposition failed to excite sufficient public response to justify their existence and two of these concerns secured modifications of their charters with a view to writing Accident Insurance. They were hardly more successful in this than in the former venture and it was not until the business of the Travelers developed that Accident Insurance became established in this country.

At first the coverage was confined to injuries sustained in railroad and steamboat travel. A number of companies were formed to assume this risk. Some of these companies failed and survivors were ultimately absorbed by the Travelers. The entire operation of exclusive travel insurance was assigned to a Ticket Department which is still a branch of the company's organization. The business developed rapidly and was extended to embrace accidental injuries of all kinds.

In 1898, following a period of failure on the part of numerous Health Insurance companies, the Accident companies began to furnish weekly indemnity for disability occasioned by sickness. The diseases covered were at the outset confined to the three most violent fevers, smallpox, cholera and measles. By degrees, and



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coincident with the extension of Accident coverage, policies were issued to embrace a greater number of diseases until sickness from practically any cause was covered.

During the past fifty years the business of casualty insurance has been extended to liability, plate glass, burglar, elevator, motor car, fidelity and other forms of protection.

There are at this day upwards of sixty companies in the United States transacting personal accident insurance. As with Life Insurance, the bulk of the business is in the hands of a few well-established and thoroughly organized concerns.

It is estimated that claims emanate from somewhat more than 10 per cent. of the policies issued. About 1.30 per cent. of the claims growing out of accidental injuries represent fatalities, but the sums paid on the latter account aggregate about one-third of the companies' losses.

The ratio of accidents sustained by persons who work in the occupations for which they were insured is somewhat less than 70 per cent. of all accidents for which claims have been paid. Leaving out of the calculation accidents suffered in the pursuit of regular occupation, claims have arisen from injuries in the following ratios:

At home 25.9 per cent; pedestrians 18.2 per cent; automobiles 11.1 per cent; recreation 11.0 per cent; horses and vehicles 9.9 per cent; street car travel 7.2 per cent; railway travel 4.3 per cent; bicycles 1.2 per cent; steamship travel 1.0 per cent; miscellaneous 10.2 per cent.

These figures are not to be accepted as an indication that the hazards to which a man is exposed at home are unusually great or numerous. The explanation is to be found in the obvious fact that a very large proportion of policyholders are daily liable to accidents which may occur at home, whilst very few comparatively travel by steamship, for instance. The low percentages for this and other travel items in the table do, however, indicate a great decrease in the dangers associated with them since the inception of accident insurance. With reduction of the hazard in this direction has arisen



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in others a counterbalancing growth of risks, notably those connected with the automobile.

At present the usual contract is one running for a year and providing indemnity for death, dismemberment and temporary disability incurred as a result of accident. The basic unit of such contract is $1,000 death indemnity and $5 a week for disablement. On this basis policies are issued up to 100 units. The classification of risks is regulated by occupations. Professional and business men compose the preferred or "A" class. From this there is a gradation through several classifications to the most hazardous which will be covered. Beyond these various grades of insurable risks are a number of prohibited classes to which protection can not be extended at any rates that would be practicable.

In its early stages the business was necessarily experimental and the classification of risks was based on more or less faulty data. Policies and rates changed with great, but gradually decreasing, frequency as experience furnished a constantly enlarging volume of facts from which to deduce calculations. Present premiums and classifications are largely based on the statistics of a number of companies made generally available. Thus certain standards have been established, which are observed by all Accident underwriters, with slight modifications prompted by judgment in particular cases.

Individual companies have done much in the direction of collecting and analyzing facts bearing on the risk of injury and disablement among different classes of men, but there has not been such a union of information sources as among Life Insurance companies and it cannot be said that there is as yet a science of Accident Insurance in the sense that there is a science of Life Insurance. There are not, for example, any casualty figures which are universally accepted and used as are the mortality tables. In the Accident business premiums and reserves are not based on standard tables but are largely governed by the judgment and experience of individual managers, who act for their companies in the capacities that are filled by actuaries in Life Insurance companies. There is, however,a constant approach toward uniformity and percision aided by the increasing experience of the



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Accident companies. A valuable addition to the existing data should be found in the casualty statistics which the Government has been compiling for several years past. These embrace records of accidental injuries sustained among the 75,000 employees who come under the Compensation Act of 1908 and also among all others of the 300,000 persons in the Federal service.

Beginning in a desire to give as complete protection as feasible and stimulated by competition, the Accident policy has undergone constant extension and amplification, until it is now laden with multiform "frills." The benefits commonly included surgeon's fees, hospital expenses, beneficiary insurance, double indemnity, applied under same contracts to temporary disability, cumulative increase and a number of minor features. The extra benefits have mostly been added without corresponding increase of premium rates and with consequent reduction in the profits of the business. The limit of practical liberality has been reached and there are signs of impending reaction. The reformative movement, whether it originates with the companies or is enforced by the Insurance commissioners, is likely to effect the elimination of non-essentials from the contract and compensatory improvement in the fundamental features of protection.

There is a close approach to uniformity in the essential features of latter-day Accident and Health policies. This is mainly due to the Standard Provisions Law of January 1st, 1914, which is effective in a number of states. The Act in question provides for the incorporation of twenty provisions in Accident contracts and the use of uniform phraseology in setting them forth. A few of the provisions are optional and additional provisions are permissible on condition that they do not conflict with the Act.

The subjects of the principal Standard Provisions are as follows: 1. Insuring clause; 2. Statements made in the application; 3. Reinstatement of policy; 4 and 5. Obligation on the part of the insured or beneficiary to notify company of injury; 6. Requirement that company shall furnish forms for proofs of loss; 7. Limit of time for filing proofs; 8. Company's right to make medical examination or autopsy; 9. Provision for payment immediatey after receipt of proof;



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10. Provision for payments every eight weeks on account of extended claims; 11. Provision for payment of certain indemnities to beneficiary and certain others to insured; 12. Right of insured to cancel policy and receive unearned premium in case of changing occupation to one less hazardous than that under which he is insured; 13. Right of revocation; 14. Limits of time for bringing suit; 15. Right of company to cancel policy.

Accident Insurance business is conducted upon two general plans of operation; these are Stock Company and Assessment. Under the former plan, the policies are issued by correspondence at fixed rates, supported by adequate reserves. By far the greater part of the Assessment business is done by Fraternal Orders and similar associations.

The business of the **Stock Companies** falls into four general divisions as follows:

1. **Commercial Accident Insurance.** This is by far the largest part of the business. Its patrons are men in the ordinary walks of life.

2. **Industrial Accident Insurance.** This is sold to the classes which carry Industrial Life Insurance. The premiums are payable monthly.

3. **Ticket Accident Insurance.** This is written for short periods at a daily rate, for the benefit of travelers chiefly.

4. **Workmen's Collective Insurance.** This form, which is fast falling into disuse, indemnifies the insured for payments which he may make to workmen injured in his service.

Several of the Life Insurance companies write Accident Insurance through separate departments or in conjunction with their Life policies. Most of the Accident Insurance companies do business in various other lines of Casualty insurance. The Stock Companies are generally well established and fortified by ample capital and surplus. These companies pay annually in Accident and Sickness claims sums aggregating about $20,124,067.

### Industrial Accident and Health Insurance

The foregoing applies in the main to the Commercial branch of the business. This had been practical during



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many years before Industrial Accident and Health Insurance was introduced. The first company to operate the latter form of protection was organized in 1891. The plan became immediately popular and new companies entered the field in rapid succession. There are at the present time upwards of 100 companies in the United States engaged exclusively or chiefly in this department of the business, not to mention the numerous fraternal and beneficial associations that furnish a similar kind of protection.

Industrial Accident and Health Insurance filled a highly important field and meets a distinct need. It is not, however, in as prosperous a condition as it should be. Keen competition has enhanced the cost of securing new business and has led to the issuance of policies granting greater benefits than the companies can well afford to give for the premium charged. This tendency to over-liberality has characterized the Commercial business in late years. In the latter case, however, whilst the condition has resulted in reducing profits to an almost negligible quantity, it has not introduced an element of danger, because an extensive experience has established the cost of carrying Commercial risks on a basis of practical precision. As much can not be said of Industrial Accident and Health Insurance which has been in operation for a comparatively short period.

Workmen's Compensation does not appear to have exercised an adverse effect upon the industrial business so far. On the contrary, a number of large companies report their greatest gains of recent years in States where compensation statutes are in force. This is doubtless due to the fact that the widespread legislation dealing with the matter has brought insurance forcibly to the atention of wage-earners and to the extra efforts put forth by the companies in order to conteract the encroachment in their field of operation. The task of holding their own will grow more difficult for the Industrial companies, with the passage of time, in view of the fact that the coverage of Workmen's Compensation is constantly broadening and will shortly be extended to occupational diseases. The companies can be successful in meeting the threatened competition only



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by effecting a substantial decrease in their expense and lapse ratios.

It is, of course, not at all improbable that compulsory insurance will prove unsatisfactory in this country, as it has in other countries, and that the function of providing protection for working classes will be left in the hands of insurance companies.

### Workmen's Collective Insurance

This is in effect Casualty Group Insurance. It is the insurance against accident under one policy of a number of workmen. Workmen's Collective Insurance originated in England, when it was called "Joint Insurance" because its coverage embraced both the employer's liability and the personal insurance of his employers. This combination never obtained in the United States, but here the liability and collective policies are almost always carried concurrently.

Workmen's Collective Insurance benefits comprise indemnity for the following results of accidental injury: 1. Death. 2. Loss of one or more limbs. 3. Loss of an eye or entire sight. 4. Temporary disability involving loss of time. The policy usually contemplates only the occupational hazard, but the protection is sometimes extended over the twenty-four hours at an increase of 15 per cent. in the cost. The premium which is based upon the payroll, is sometimes divided between employer and workmen and sometimes entirely paid by one or the other.

Workmen's Collective Insurance has not grown to important proportions in this country, although it is undoubtedly advantageous to wage-earners. Perhaps the chief of several causes militating against its extension is the antagonism of Trades Unions, many of which have insurance branches of their own. In the States which have instituted Workmen's Compensation there is no longer any scope for the former system.

### Liability Insurance

Since the earliest times the Common Law of England has imposed upon the master responsibility for injuries suffered by his servant. His liability was very limited, however, and, in the absence of special agreement, practically restricted to cases involving



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negligence on his part. An obligation rested on the employer to furnish the workman with fit tools and a suitable place for his labor; to acquaint him with the hazards of his employment and to refrain from associating with him incompetent workmen.

In defense of an action for damages based on accidental injury to an employee, the employer had three particular resources, the establishment of any one of which would defeat recovery by the employee.

These were as follows: 1. The defense of "assumption of risk." This depended upon a showing that the injury resulted from a risk inherent to the occupation. 2. The defense of "the fellow-servant rule," which held when the injury was caused by another employee in the same service. 3. The defense of "contributory negligence." This was a contention that the accident was occasioned solely or in some measure by the carelessness of the injured workman.

In the early days it was customary for the master to work among his men or to directly oversee their labor. Under such condition it was not often difficult to determine, with justice to both parties, the liability of the employer for the results of accidents. But, with the development of industry along complex lines, the establishment of the factory system, and the existence of large plants under the control of corporations, it became gradually more difficult and ultimately almost impossible to fix upon the employer liability for negligence.

At the same time a broader conception of the rights of the workmen and the responsibility of the employer gained ground. It was realized that, whilst the hazards to which the workman is exposed are undertaken for his employer's benefit no less than for his own, there is a great disproportion in the respective risks of consequence. Injury to a workman is not likely to entail upon the employer worse loss than that of a few dollars, but it may permanently destroy the earning capcity of the victim. Furthermore, the public began to recognize the fact that the workman and his labor are the essential features in a great industrial system of which the community at large is the beneficiary and that society consequently has a vital interest in the matter.



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An agitation, based on these principles, crystalized in the passage of the Employer's Liability Act of 1880 in Great Britain. In 1881 the Reichstag passed a bill making insurance against sickness, accident and disability compulsory on all workers in industrial pursuits. The system was not modified by succeeding acts and extended to include provision for death and invalidity from any cause. The requirements of these laws are not carried out by the Government, but by the joint action of a number of "Mutual Associations," representing the various industries.

The Employer's Liability Act fell far short of meeting the demands of the situation. In 1897 it was amended to increase the liability of the employer on the broad principle, as stated by Asquith, that "when a person on his own responsibility and for his own profit, sets in motion agencies which create risks for others, he is morally responsible for the consequences of what he does." The new measure, which was known as the Workmen's Compensation Act, greatly increased the protection. It practically provides for compensation in all cases of injury, except those due to wilful misconduct on the part of the employee and even that condition does not exempt the employer from liability when the accident results in death or permanent disability.

Whilst the United States was the latest among the great nations to adopt legal measures for the compensation of workmen injured in employment, the need for such legislation was greater here than elsewhere. Comparison of industrial casualties in this country and abroad is greatly to the disadvantage of the former, although efforts at improvement in recent years have reduced the disparity. A decade ago there were ten deaths in America caused by boiler explosions to every one in England from the same cause, and twenty-seven here to one in Germany. Much the same difference showed in other lines of industrial activity. The number of men killed in mines of the United States per thousand employed was greater than the combined numbers so killed in Great Britain, France and Belgium.

In 1887 the State of Massachussetts passed the first employer's liability law enacted in the United States. A number of other States followed in rapid succession



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with similar legislation. Beginning in 1911, the various States' legislatures have enacted Workmen's Compensation measures, until at present a law of this description is on the statute books of nearly every State and territory.

Following the passage of the Liability Act of 1880 a number of companies were organized in Great Britain to afford employers indemnity for damages secured against them by employees. Several of these concerns established branches in the United States and still do a large business here in competition with numerous American corporations.

The employee is not a party to the contract of Employer's Liability Insurance and is not protected by it. On the contrary, it is to the interest of the underwriting company to aid the employer in attempting to avoid liability. With the general introduction of Workmen's Compensation laws, the field for Employers' Liability Insurance has diminished almost to the point of extinction.

Several States have set up systems of Workmen's Compensation Insurance to the exclusion of commercial corporations. In most cases, however, the employer is allowed the choice of agencies, even when State funds are provided for the purpose of affording the insurance.

Workmen's Compensation laws contemplate only accidents which occur in the occupation of the insured or are directly connected with it. The entire expense of the insurance must be borne by the employer. In some statutes specific penalties are provided for any attempt on the part of the employer to transfer the cost of the compensation, or any part of it, to the employee.

The operation of the Workmen's Compensation in the United States is in an experimental and unsatisfactory state. It cannot be said to have yet approached the condition of a coherent system, but is regulated by a number of state laws which do not harmonize in purpose, scope nor detail. This lack of uniformity, even in essentials, is detrimental to workmen as well as employers. The chief sufferers, however, are the large corporations which do an interstate business and maintain plants in widely separated portions of the country. To them the necessity of complying with a number of



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conflicting statutes is especially burdensome and expensive.

(The most enlightening statement of the present condition of Workmen's Compensation in America will be found in the report of an investigation concluded at the close of 1915 by the Voluntary Investigating Commission of Kentucky. The examination embraced the laws of a number of States and particularly those of Kentucky, California, Ohio, Indiana, Massachussetts, West Virginia, Washington and Wisconsin.)

Liability Insurance is practised in a number of forms other than those which have been considered. For example, policies are written to cover Elevator, Public, Landlord's Vehicle and other forms of liability for the results of accident.

## PERMANENT TOTAL DISABILITY

This, the latest form of casualty insurance, was introduced to America by the Life Insurance companies and is at the present time mainly written in connection with their policies. Insurance against Permanent Total Disability originated with the Mutual Aid Societies of Germany in the eighteenth century. It was included in the benefits of certain Fraternal Orders of Great Britain and America several years before 1896, when the Fidelity Mutual Life Insurance Company of Philadelphia issued the first Legal Reserve contract containing a Permanent Total Disability clause. A decade elapsed before another Company adopted the provision and it remained a very exceptional feature of Life Insurance until about ten years ago. At that time began the wave of promotion which added two hundred or more companies to the Old Line ranks. The new companies needed "talking points," and many of them adopted the Permanent Total Disability clause. It is now found in the contracts of fully three-fourths of American companies, including nearly all the leading ones.

There is a great difference between the various policy provisions in this connection, both as to the extent of benefit guaranteed and as to definition of terms. In some cases the protection is more apparent than actual and the clause referring to it is drawn in vague and ambiguous language. It is impossible to escape



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the conviction that in such instances there is a deliberate intent to deceive the purchaser of the policy. Although these are the exceptional cases, there is a general need of greater precision in the clause and a definition of the condition contemplated in such terms as to admit of but one interpretation.

The difficulty in the way of a comprehensive and precise definition promises to be a source of much trouble to the companies in the future. A certain injury may cause total disability in the case of one man and fall far short of it in the case of another. For example: There would be a great difference in effect of the loss of feet to a bookkeeper and to a ballet dancer; the loss of hands to a bank president and a cartoonist; the loss of sight to an attorney and a tea-taster. It seems that any definition should include as an essential element incapacity for any work for which the insured is fitted by experience and training.

It is probable that we shall, in course of time, derive a standard technical definition of "permanent total disability" from experience combined with legal decisions on the question, in the same way as we have acquired the technical definition of an "accident." In the meanwhile it is practically certain that most companies will act in a liberal spirit of equity when any questionable claim is presented and that doubtful cases will be considered on their individual merits, rather than on a liberal interpretation of the policy provision.

A company which contemplates fair and liberal treatment of all bona fide claimants may prudently protect itself against fraud by a contract clause expressing the minimum benefit it purposes providing or the most restrictive conditions it intends to enforce. On the other hand, a company which views its Permanent Total Disability provision as a selling feature rather than a substantial protection to the policyholder, will construct the clause with a view to limiting its liabilities as much as possible, and will avail itself of the utmost technical advantage in making settlements.

Several companies insure against permanent total disability "from any cause whatever." The majority of clauses except certain causes. In some it is agreed that the loss of two limbs or of the entire sight "shall



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be deemed to constitute permanent total disability," even though the insured may not be incapacitated for the pursuit of gainful occupation.

The Permanent Total Disability benefit takes a variety of forms. With most companies it consists of a waiver of premiums and, in effect, granting to the insured a paid-up policy payable at death. A large number of Permanent Total Disability clauses provide for the treatment of the policy as a death claim and the payment of its face amount in ten, fifteen or twenty annual instalments. In other instances the insured is exempted from payment of further premiums which are, however, made a lien against the policy.

The extra charge for the Permanent Total Disability feature varies greatly with the different companies, there being no acceptable standard by which to value the risk, nor any satisfactory statistics upon which to form one. At present most of the available data on the subject consists of statistics relating to industrial exposures in Germany, the Friendly Societies of Great Britain and the Fraternal Orders of America. None of these classes of risks are typical of the insured in Legal Reserve companies. Other facts connected with the statistics in question render them of doubtful applicability. Until the experience of the companies furnishes reliable data definite information on the important phases of the risk will be lacking.

S. H. Pipe, Franklin Mead and Alfred Hunter have each deduced tables from the sources mentioned. Those of the last named are generally admitted to be the most practicable and have been adopted by the Insurance Department of the State of New York for purposes of valuation.

The following table, compiled by Sidney Pipe, indicates the probability of Permanent Total Disability occurring within the life expectancy:

| AGE | EXPECTANCY | PROBABILITY |
|---|---|---|
| 20 | 42.20 Years | 4.60 per cent. |
| 25 | 38.81 " | 6.04 " " |
| 30 | 35.33 " | 8.03 " " |
| 35 | 31.78 " | 10.80 " " |
| 40 | 28.18 " | 14.66 " " |



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| | | | | | |
|---|---|---|---|---|---|
| 45 | 24.54 | " | 19.77 | " | " |
| 50 | 20.91 | " | 26.52 | " | " |
| 55 | 17.40 | " | 35.73 | " | " |
| 60 | 14.10 | " | 47.58 | " | " |
| 65 | 11.10 | " | 61.34 | " | " |
| 70 | 8.48 | " | 74.77 | " | " |

It will be noted that the probability of permanent total disability increases very rapidly after middle age, until the risk becomes an extremely great one, largely because senility becomes a cause in latter life. For this reason the Permanent Total Disability clause in policies almost invariably expires at age of 60 or earlier. This being the case, a different set of figures from the above would be necessary to indicate the probability value of the provision to a policyholder.

S. H. Pipe's analysis exhibits the following causes of permanent total disability: consumption 234 per thousand; paralysis 127; insanity 120; diseases of circulatory system 72; diseases of urinary system 52; cancer 47; acicdental injury 44; balance 301. All the specified causes come under the head of "bodily injury or disease," but it is probable that a considerable proportion of the "balance" would be accounted for by natural disability incident to old age.

From the same analysis it is deduced that the average interval of time between the occurrence of permanent total disability and death, for all causes, is one year, and five months. The investigation shows that the rate of mortality among the disabled is affected much less by age than by the cause or the fact of disability. The **fact,** irrespective of the cause, may be presumed to exert a potent influence on mortality, on the assumption that a totally disabled person is apt to lose his mental grip on life. This view is supported by the fact that the mortality among disabled lives is higher at the younger than at the older ages.

From the available data it would seem that the permanent total disability risk, if not assumed after age 60, is a comparatively slight one. It must be borne in mind that the cases involved are provided for in the mortality tables and the extra liability assumed by the company is the payment by it of premiums after the occurrence of the disability or the payment of the



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policy in instalments. Under the latter condition the company enjoys the compensatory advantage of the difference between the value of the instalments and the principal sum. In any case the liability assumes small proportion in view of the unquestionable shortness of the average period of survival after total disablement. But if the risk is slight, so also is the charge for it, whilst the measures of protection is great when the probability of occurrence and usually serious consequences of permanent total disability are considered.

(For further information on the subjects dealt with in this paper see **"Accident and Health Insurance,"** The Insurance Institute of Hartford, 1915; **"The Business of Insurance,"** Dunham, vol. 2; **"The Measure of Risk and Liability Under the Total and Permanent Disability Benefits in Life Insurance Policies,"** Franklin B. Mead, in the Proceedings of the American Life Convention, 1909; **"Disability Benefits,"** Moir, in the Proceedings of the Association of Life Insurance Presidents," 1913.)



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

### QUESTIONS AND ANSWERS

### XV

141. **What was the nature of the coverage afforded by the earliest Accident companies?**

*Insurance against accidents incurred in travel on railroads and steamship lines.*

142. **About what percentage of policies involve claims?**

*Somewhat more than 10 per cent.*

143. **What is the universal period of an Accident policy?**

*One year.*

144. **What appears to be the chief need of the Accident Insurance business?**

*The reduction of "frills" and improvement along the lines of essential features.*

145. **What is the Standard Provisions Law?**

*An Act passed in 1914 providing for the incorporation of certain provisions in Accident contracts and the employment of uniform phraseology in setting them forth.*

146. **Name the different classes of Stock Accident companies.**



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*Commercial, Industrial, Ticket and Workmen's Collective Accident Insurance.*

147. **What is the chief weakness of the Industrial Accident Insurance business?**

*Excessive cost of securing new business and high lapse rate.*

148. **What is the latest kind of Accident Insurance?**

*Workmen's Compensation Insurance.*

149. **What is the chief need in connection with the Permanent Total Disability provision in general?**

*A clear and uniformly accepted definition of "permanent total disability."*

150. **At age 30 what is the probability of Permanent Total Disability during the term of life expectancy?**

*Slightly more than 8 per cent.*

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# XVI

# Disability Insurance

## Part 2

### Accident and Sickness Insurance—Combination Insurance

BY FORBES LINDSAY

A medical examination is not made in connection with applications for Accident and Sickness Insurance. Usually, all the information secured regarding the risk is derived from the application form. This document is, therefore, more significant and important than that to which the applicant for Life Insurance attaches his signature. The Standard Provisions Law requires the inclusion in the contract of the following clause: "No statement made by the applicant for insurance not included herein shall avoid the policy or be used in any legal proceeding hereunder." In defense of this condition companies now require the signature of the applicant to the application form, which is incorporated in the policy. Moreover, the application contains the following clause, or one to similar effect: "I understand and agree that the right to recovery under any policy which may be issued upon the basis of this application shall be barred in the event that any one of the following statements, material either to the acceptance of the risk or to the hazard assumed by the company, is false, or in the event that any one of the following statements is false and made with intent to deceive."

(The applications and policies of stock companies are almost standard in form and those of the Pacific Mutual have been used in this connection. The student is advised to examine that Company's "Eureka" Disability Policy in relation to this paper.)

The most important questions in the application for Accident Insurance refer to state of health, past and present, physical or mental impairments, occupation,

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other insurance carried or applied for, name and relationship of beneficiary.

Should an undeclared impairment of the risk exist at the time of making application, the consequent contract would be tainted and subject to repudiation by the company, and this regardless of the intent of the applicant in failing to divulge the impairment. The assumption that all the facts material to the hazard have been stated in the application underlies the entire contract and any condition to the contrary affords the company a strong defense against claims under the policy.

The principle of Accident and Sickness Insurance is to provide indemnity for the loss of time at its monetary value to the insured, measured by his regular or average earnings. Any element of speculation or any condition which tends to place a premium on injury is in conflict with this principle.

The insurance is issued for a term of three, six, or twelve months, with rare exceptions. The contract may be renewed or continued beyond the stipulated period by mutual agreement, the indications of which are the payment of another premium by the insured and its acceptance by the company.

The policy contains the following clause: "The company may cancel this policy at any time by written notice delivered to the insured or mailed to his last address, * * * together with cash or the company's check for the unearned portion of the premiums actually paid by the insured, and such cancellation shall be without prejudice to any claim originating prior thereto."

The privilege retained to the company in this clause is a highly important one, fully recognized by the framers of the Standard Provisions Law. If the insurer were not thus enabled to dispose of impaired and undesirable risks, the charges for Disability Insurance would necessarily be considerably greater than they are at present. Most of the dissatisfaction with this form of insurance arises from failure on the part of the insured to understand the limited term for which the contract is issued and the right of the company to discontinue the insurance at will.

The "insuring clause" is the vital feature of a Disabil-



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ity policy. With slight variations of phraseology, it runs in the following form in an Accident policy: " * * * does hereby insure John Doe against loss resulting from bodily injuries effected directly and independently of all other causes through accidental means."

The limitations of the coverage under this clause are commonly misunderstood by insurers and, sometimes, by agents. The concluding words, "accidental means," are uniformly employed with the intent to draw a distinction between injuries which may properly be attributable to such causes and other injuries resulting from accident. An accident or casualty may be the outcome of a deliberate and intentional act on the part of the victim, or it may be the consequence of his unintentional act and be caused by conditions beyond his control. The policy does not contemplate protection against the former class of injuries, but against the latter class.

The Supreme Court of the United States, construing the insuring clause of an Accident policy, ruled that: "If a result is such as follows from ordinary means voluntarily employed in not an unusual and unexpected way, it cannot be, as a result, effected by accidental means, but if, in the act which precedes the injury, something unforeseen, unexpected or unusual occurs which produces the injury, then the injury has resulted from accidental means."

Let us suppose that a man is swinging Indian clubs in the customary manner and through sheer carelessness or awkwardness strikes his head, the resultant injury would not be "accidental," according to the foregoing interpretation. If, on the other hand, whilst being swung in the ordinary manner, the club should strike a chandelier and be deflected to the insured's head, the injury would have resulted from "accidental means."

It may be added that, when used in Workmen's Compensation Laws, the word "accident" is given a much broader meaning than it has in Commercial Accident Insurance.

The words "external and violent" have been generally eliminated from the insuring clause. In view of the interpretation of the phrase by the courts it has ceased to exercise any restrictive effect. For example, it has been



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held that choking, suffocation, internal poisoning, and nervous shock were sound bases for claims under policies which purported to cover only such injuries as were occasioned by "external and violent" agencies. It would appear that, provided the element of fortuitous origin can be established, compensation may be secured for any accidental result.

In cases of death occasioned by unquestionable accidental means the further consideration arises as to whether the fatal injury was the sole cause. A man suffering from heart trouble, for instance, may be killed by an accident which would not have proved fatal to a healthy person. Under such circumstances the company would not be liable. A claim would hold, however, where it could be shown that, although a pre-existing disease or infirmity was a contributory cause, the accidental injury was sufficiently severe in itself to have produced the result.

When an injury caused by accidental means is the direct origin of a disorder or connected sequence of disorders, culminating in death, although the final cause may be disease, the company is liable. The principle is that any continuous chain of conditions terminating in death constitute ground for compensation when the originating cause was an accident within the meaning of the contract.

A consideration of these conditions will reveal the reason for the ninety day limitation clause. Its purpose is to afford time for the development of the results of accident and to facilitate establishing the connection of the ultimate loss with the originating cause.

It should be understood that in all cases it is the purpose of the company to fulfill the terms of its contract and to do strict justice to the insured. With this assurance in mind, the agent should adopt an attitude of impartiality toward questionable claims and not one of partisan support of the claimant, as he commonly does.

Only the essential features of the policy and the principles involved in the insurance are treated in this paper. The many minor benefits provided by the contract and the various conditions contained in it may be ascertained from the document itself.



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## HEALTH INSURANCE

This form of protection is usually provided in connection with Accident Insurance and the coverage afforded by regular companies embraces every kind of sickness and disease. The insuring clause of the policy under consideration briefly states that the insured is protected against loss resulting from "illness, as hereinafter defined, contracted by the insured during the term of the policy, but not within fifteen days from the time this policy becames effective, and for which the insured is treated by a licensed physician."

Whilst Accident Insurance provides indemnity for partial disability, when the insured may be capable of some degree of business activity, Health Insurance is effective only so long as the insured is totally disabled and employing the services of a physician. A further condition of the payment of full indemnity is complete confinement by the insured. Provision is made, however, for convalescence. During this period, immediately following that of complete confinement, the insured, although able to leave the house, will receive half the weekly indemnity provided by the contract, provided he is still totally disabled and requiring medical attention.

The Health policy usually contains a provision covering permanent disability, the indemnity varying with different companies.

In Health Insurance a most important question is the time of inception of the disease on which a claim is based. It is a fundamental principle of this form of protection that the disabling complaint must have its beginning within the term of the policy. This "beginning" does not mean the time at which the insured became distinctly sick or the time when an abnormal condition became manifest, but the time at which the originating pathological process set in. It will readily be understood that a long interval may separate the inception of a disease from the development of pronounced symptoms. The Health policy pre-supposes that the applicant is not only consciously well, but actually healthy and sound.

The application for a Health policy requires a state-



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ment that the applicant has not, to his knowledge, been recently exposed to any infectious disease, that he is in sound condition, physically and mentally, together with a medical history of the past five or seven years.

## ADJUSTMENTS OF CLAIMS

The Standard Provisions Law specifies the following clause for insertion in Disability policies: "Written notice of an injury or of sickness on which claim may be based must be given to the company within twenty days after the date of the accident causing such injury, or within ten days after the commencement of disability from such sickness. In event of accidental death immediate notice thereof must be given to the company."

Of these three requirements, that relating to sickness is the most important, and that upon which the company lays the greatest insistence. This, because with the passage of time both the opportunity for imposition and the difficulty of making searching medical examination increase. The former contingency is of less concern to the company than the latter—by far the majority of claims are advanced in good faith, but many are invalid or defective by reason of misunderstanding on the part of the insured. For this reason the company, on receipt of notice of injury or sickness, forwards a blank which, when filled in and accompanied by the certificate of the medical attendant, furnishes the basis for settlement.

The correspondence may disclose physical impairment or pre-existent disease not mentioned in the application and constituting a breach of warranty. In such cases the services of the company's local examiners are required, a clause in the policy providing for facility in making medical examination of the insured.

The investigation of a claim will sometimes discover the fact that the insured was not correctly classified at the time of making application or that he has since changed his occupation to one more hazardous than that under which he was written. A clause in the contract makes equitable provision for such a situation, stipulating that in the event of the insured being injured whilst in the pursuit of an occupation more hazardous than that



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covered by the policy, or when performing an act pertaining to a more hazardous occupation, he shall be entitled to no more than such proportion of the indemnities provided by the policy as the premium paid would have purchased at the rate for the more hazardous occupation.

The prorating clause works full justice to the insured. He receives the precise amount of protection for which he pays. In case of his being injured whilst engaged in recreation or the ordinary affairs of private life the prorating clause is not effective.

The course of an investigation of a claim may reveal other Disability insurance, not mentioned in the application for the policy, making the total coverage in excess of the amount justified by the insured's earnings. More than one course is open to the company in the adjustment of such a case. If the insured, at the time of applying to the company, had other insurance which he failed to mention in the application, his failure would constitute a breach of warranty, nullifying the contract. According to the Standard Provisions Law the company's liability in such circumstances would depend upon whether the claimant omitted to mention the other insurance with fraudulent intent or whether the omission materially affected the acceptance of the risk. The former question would be one generally impossible of decision.

In case the insured takes other policies after the issuance of the original contract it is required by the terms of the policy that he shall notify the company or companies already covering him. Failing to do this, he can only recover under any one contract such portion of the indemnity provided by it as that indemnity bears to the whole amount of Disability insurance carried by him.

By way of illustration, let us suppose that a person whose earnings are $40 per week takes an Accident policy giving that amount of weekly indemnity and afterwards adds three similar policies. In the event of a claim, the original company's liability would be 40/160, or $10 per week. The later insurance would not have been placed in the light of the facts, and the companies concerned would have a right to deny liability, or they might prorate on the same basis as the first.



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It may be added that in case a man's earnings at the time of application warrant the amount of indemnity afforded by the contract, but afterwards decrease, the company has no right to prorate his claim.

## COMBINATION INSURANCE

About fifteen years ago a few companies, whose charters permitted them to do so, introduced the innovation of Life and Disability Insurance combined in one contract. The Pacific Mutual was one of the pioneers in this movement. A step in the same direction has since been taken by a majority of the Life companies in adding the Permanent Total Disability feature to their policies, whilst a few of them have made a further advance by issuing Life policies providing for double indemnity in the event of death from accident when traveling in a public conveyance.

The closest relation exists between Life insurance and Disability Insurance. This seems to have been recognized by the incorporators of the earliest American Life Insurance companies and by the authorities from whom the charters were derived. The oldest of these documents contemplated provision by the companies for all kinds of personal protection.

There can be no objection in principle to the combination. If it is desirable and proper for a Fire Insurance company to indemnify for partial loss, is it not equally desirable and proper for a Life Insurance company to do so? The primary purpose of Life Insurance is to compensate for the permanent loss of income resulting from the death of the insured. It would appear to be highly logical that the policy which provides this benefit should also compensate for the temporary loss of income resulting from accident or sickness.

Perhaps the chief point to be urged in favor of the combination of Life and Disability Insurance is the economy involved in it. The arrangement has advantages for both company and insured. The former gains from the better selection of risks consequent on medical examination and inspection; the latter, from the lower cost due to the saving incident to better risks.



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# PACIFIC MUTUAL SCHOOL FOR SALESMEN

## FIRST POST-GRADUATE COURSE

QUESTIONS AND ANSWERS

### XVI

151. **What is the purpose of Disability Insurance?**

*To afford indemnity for loss of time having a monetary value.*

152. **Name the vital feature of a Disability contract.**

*The Insuring Clause.*

153. **Briefly define the word "accident" in its technical sense.**

*An occurrence of fortuitous and unexpected character resulting in a physical injury.*

154. **In case of death by accident what further consideration arises?**

*The question as to whether the accident was the sole cause.*

155. **Is partial disability considered in Health Insurance?**

*Under Health Insurance, indemnity is paid for total disability only.*

156. **What conditions are essential to support a claim for sickness indemnity?**

*Complete incapacity for business and the attendance of a regular physician.*



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157. **What is meant by the "beginning" of a disease?**

*The time of pathological inception, regardless of the development of symptoms or the consciousness of the victim.*

158. **If the investigation of a claim discloses that the insured was not properly classified at the time of being insured, is the contract invalid?**

*No. Adjustment is made by pro-rating the indemnity.*

159. **What fact regulates the amount of Disability Insurance which will be issued on a risk?**

*The regular or average earnings of the insured.*

160. **What is the chief point to be urged in favor of Combination Insurance?**

*Saving in cost to the insured.*

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## THE FOLLOWING CORRECTIONS SHOULD BE MADE IN THE TEXT OF THIS VOLUME

No. IV —p. 42, 2nd line, "but nothing" instead of "and nothing."
10th line, omit "$" before "69,804."
13th line, "but" in place of "and."
10th line from foot of page, substitute "this section" for "the foregoing paper."

No. V —p. 50, column 5, substitute "86" for "8.60."
" 51 " 7 " "85" " "8.50."

No. VII —p. 65, 2nd paragraph, 2nd line, change "this" to "his."

p. 67, last line of 1st par., "premium" instead of "premiums."

p. 70, 1st par., under "Policy Loans," in 1st line change "provisions" to "provision."

No. VIII—p. 77, 1st par., 5th line, strike out "the latter, but involves," and insert "Whole Life, and of involving."
5th par., 3rd line, after "becomes" insert "an almost."

p. 78, in last line of 4th par., after "and" substitute "withhold" in place of "withholds."

No. IX —p. 88, in last line of 1st par., substitute "printed" for "written."

p. 91, 5th par., insert a comma after "dividends," and also after "earnings."

No. X —p. 97, in place of the 4th paragraph, substitute the following: "Stock companies are those of which the management is entirely controlled by stockholders. As a rule the stock company's business is confined to Non-participating insurance."

p. 100, 2nd par., under "Industrial Life Insurance," in 1st line change "1914" to "1916"; second line, substitute "35,780,000" for "31,000,000"; line three, "$4,800,000,000" for "$4,000,000,000"; and in line six change "29" to "24."

p. 101, 5th line of 3rd par., change "occupations" to "occupation."

No. XI —p. 109, 3rd par., 2nd line, strike out the word "right."

p. 110, next to last par., 5th line, change "an" to "and."

p. 113, 1st line, in place of "$9,000,000,000" substitute "upwards of $9,600,000,000."

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2nd line, in place of "$1,500,000,000" substitute "more than $2,100,000,000."
3rd line, substitute "$600,000,000" in place of "$500,000,000."

No. XII —p. 117, 8th line, substitute "comptroller" for "treasurer."
p. 119, 6th par., strike out portion of second sentence beginning "the Comptroller," and substitute the following: "who also perform other duties."
p. 129, next to last par., after "claims" insert "arising from Life policies and."

No. XIII—p. 133, 1st par., 5th line, strike out "include" and insert "are made up, for the most part, of."
1st par., last line, change "next" to "present."
p. 137, 3rd par., 4th line, after "rates of" insert "conservative."

No. XIV—p. 145, 1st line of last par., change "1885" to "1855."
p. 147, 2nd par., 5th line, change "ever" to "every."
p. 148, 1st line of 4th par., in place of "original annuities" insert "supplementary contracts."
11th line, 4th par., substitute "both" for "the former."
12th line, 4th par., change ""classification" to "classifications."
p. 151, 4th line, 2nd par., after "per cent" insert "of premium income."
4th par., line 5, after "supervision" insert "the chief of which is the Supreme Court decision that Life Insurance is not commerce."

No. XV —p. 153, 3rd par., 2nd line, strike out "absence from" and substitute "presence in."
p. 156, last par., in 5th line change "information" to "informative."
p. 157, line 12 from top of page, "include" instead of "included"; lines 13 and 14, insert parentheses before the word "applied" and after "disability"; and in line 14 change "same" to "some."
p. 158, 2nd par., 4th line, substitute "corporations" for "correspondence."
p. 158, last line, "practiced" instead of "practical."
p. 159, 2nd par., 1st line, change "filled" to "fills."
p. 162, 1st par., 6th line, strike out "not."

No. XVI—p. 173, 1st par., next to last line, "becomes" instead of "becames."
p. 173, 2nd par., next to last line, "receiving" for "requiring."



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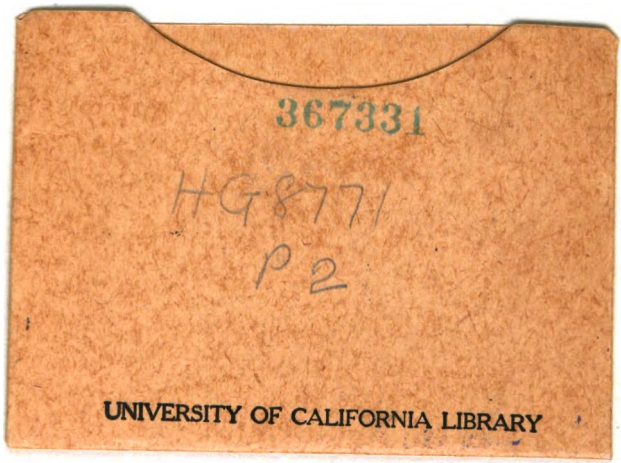
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